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HEALTH

SECRET

31 JULY 1945

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ARMY SERVICE FORCES ★ WAR DEPARTMENT

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HEALTH

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SUMMARY

NONEFFECTIVES The rate for the Army overseas declined to 34 per thousand in June, the lowest since May 1944. The U. S. noneffective rate declined to 95 in July as the larger hospital population was more than offset by the increase in Z/I strength. Noneffectiveness from disease continued to increase in the Western Pacific in June. (See pages 2 to 4.)

ADMISSION RATES During June admission rates were generally lower in all theaters except the Pacific. During July Z/I admission rates continued downward. Reported rates for air personnel are well below those for ground and service personnel. (See pages 5 to 7.)

VENEREAL DISEASE IN EUROPE Following V-E Day there was a sharp increase in venereal disease in the European Theater similar to that which occurred in the Philippines after the fall of Manila and in Italy after the fall of Naples. (See page 8.)

CIVILIAN MEDICAL CARE IN THE PACIFIC Medical problems which will be met in future operations in the Pacific, as larger and more densely populated areas are wrested from enemy control, may be understood from the experience in Manila. For forthcoming operations plans have been formulated to provide medical care to civilians and internees, and to re-establish public health controls. (See pages 9 and 10.)

CONTROLLED EVACUATION OF NEUROPSYCHIATRIC PATIENTS Based largely on the highly successful European experience, a standard plan for handling neuropsychiatric casualties has been evolved to ensure forward treatment, central control of triage and treatment, and avoidance of hospital atmosphere. (See pages 16 to 19.)

NEED FOR HOSPITALIZATION IN THE PACIFIC Based on past experience in Europe as well as in the Pacific, the future hospital population of the Pacific is estimated at 5.1 to 6.3 percent of strength for Army patients, and 5.7 to 7.3 percent for all patients in both fixed and mobile beds. A rough estimate is provided of the possible build-up following the onset of major operations. With allowances for hospital and theater dispersion it is forecast that fixed beds may be required to the extent of perhaps eight percent. (See pages 20 to 24.)

HOSPITALIZATION OVERSEAS A condition of reasonable balance characterized the fixed bed situation overseas at the end of June. Only in the Philippines were hospitals relatively crowded. The fixed bed authorization for the European Theater has been reduced to 4.4 percent of strength. The planned redeployment of fixed hospitals to the Pacific is outlined. (See pages 25 to 29.)

THEATER DISPERSION OF FIXED BEDS Loss of fixed bed capacity through staging, delays in construction, etc. is analyzed for major theaters. During the past year 34 percent of the fixed bed capacity of the Western Pacific has been out of operation for this reason. (See pages 30 and 31.)

TREND OF EVACUATION There was a further decrease in evacuation from overseas during July, the count of about 35,000 Army patients being 9,000 below that for June and 20,000 under the May peak. Future evacuation from the Pacific may occur at the rate of 20,000 to 30,000 per month if currently projected operations are launched. (See pages 32 and 33.)

USE OF HOSPITAL SHIPS Both Army and Navy hospital ships are discussed from the standpoint of their availability and mode of employment. (See pages 34 and 35.)

Z/I HOSPITALIZATION The patient population of the general hospital system reached its peak at the end of June with a total of 245,000 patients remaining. By the end of July the census was down to 239,000, but beds occupied continued to increase and will probably not decline for several months. There were 132,000 beds occupied in general hospitals proper at the end of July, 86 percent of the effective bed capacity. Patients remaining in convalescent hospitals declined about 6,000 to reach 47,000 at the end of July. Dispositions from convalescent hospitals continued to increase. (See pages 36 to 41.)

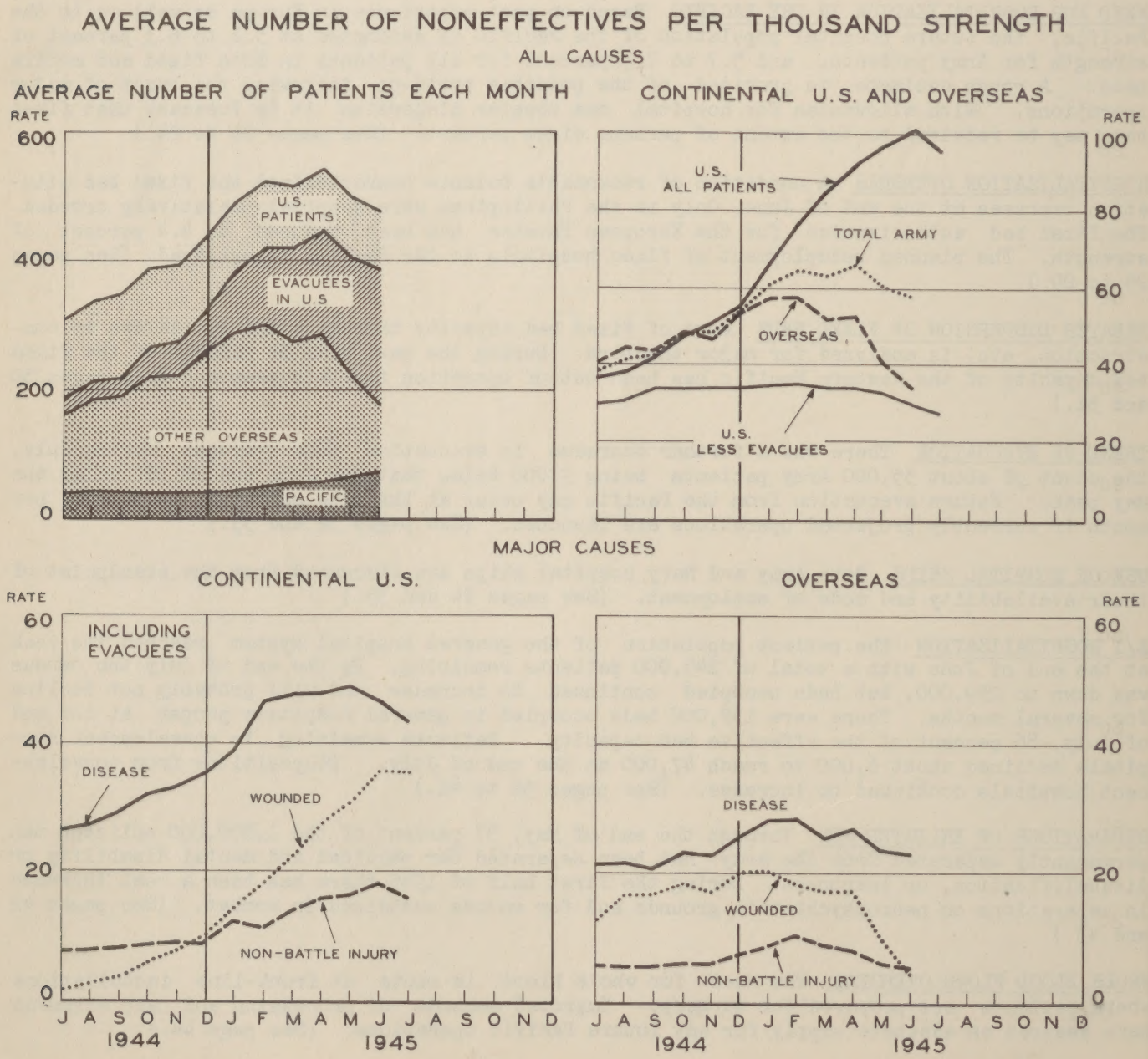
SEPARATIONS OF ENLISTED MEN Through the end of May, 57 percent of the 1,800,000 enlisted men permanently separated from the Army had been separated for physical and mental disability or disqualification, or inaptness. During the first half of 1945 there has been a real increase in separations on neuropsychiatric grounds and for wounds sustained in combat. (See pages 42 and 43.)

WHOLE BLOOD FLOWN OVERSEAS The need for whole blood is acute at front-line installations where patients are prepared for surgery. Improved methods of processing and air shipment have assured an adequate supply for any future Pacific operations. (See page 44.)

NONEFFECTIVES IN HOSPITAL AND QUARTERS, U. S. AND OVERSEAS

The average noneffective rate for all causes for the Army overseas declined sharply again during June. At 34 per thousand strength, it was the lowest since May 1944, just prior to the invasion of France. If no overseas patients had been evacuated to the Z/I, the June rates for the Army overseas would have been at least 79 per thousand strength for all patients and 28 for wounded alone. The rate for troops in the United States, on the other hand, reached a peak of 101 in June largely because of the great number of overseas patients hospitalized in this country. The preliminary U. S. rate for July fell to 95 per thousand strength for all patients and to 27 for Z/I patients only. As the average number of patients under treatment was greater during July than during June, the decline in the total rate, the first since May 1944, reflects the increase in Z/I troop strength. During June an average of about 210,000 evacuees from overseas were hospitalized in the United States, and in July this number increased to 215,000. These patients represented about 70 percent of all patients in the Z/I during July.

The total Army rates, which are independent of the place where patients happen to be hospitalized, were 33 for disease, 11 for nonbattle injury, and 17 for wounded during June. The average number of Army personnel noneffective during the month was about 478,000. Thirty-eight percent of these patients were overseas in contrast to 58 percent during February, when the Army overseas experienced its greatest proportion of noneffectives. About 41 percent of all patients overseas during June were in the Pacific, a marked contrast to the 16 percent which obtained during February.

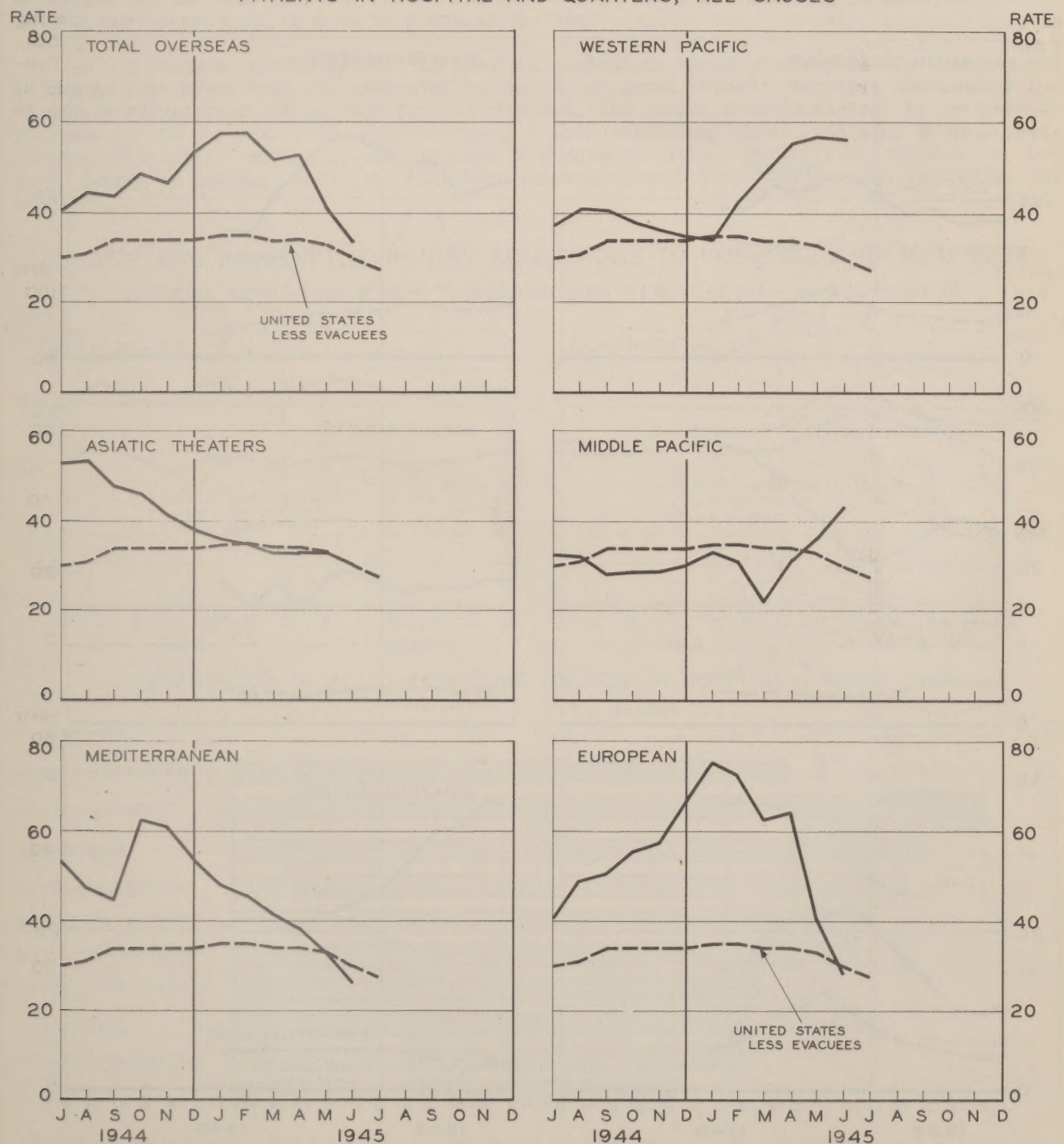


NONEFFECTIVES IN HOSPITAL AND QUARTERS, U. S. AND OVERSEAS (Continued)

The charts below and on the following page show the total noneffective rate and its major components for the more important overseas commands and for the Army overseas. The total theater rates are shown against the background of the Z/I rate corrected to exclude patients evacuated from overseas. The most recent points for all the overseas commands are provisional inasmuch as it has been necessary to estimate the number of patients confined to quarters. The preliminary overseas health reports have been revised to include only hospital data. Also, the rates for the Middle and Western Pacific commands have been estimated from incomplete reports submitted by these commands.

The total rates for all commands except the Middle Pacific declined during June. The total rate for this area advanced to about 43 per thousand strength as a result of in-

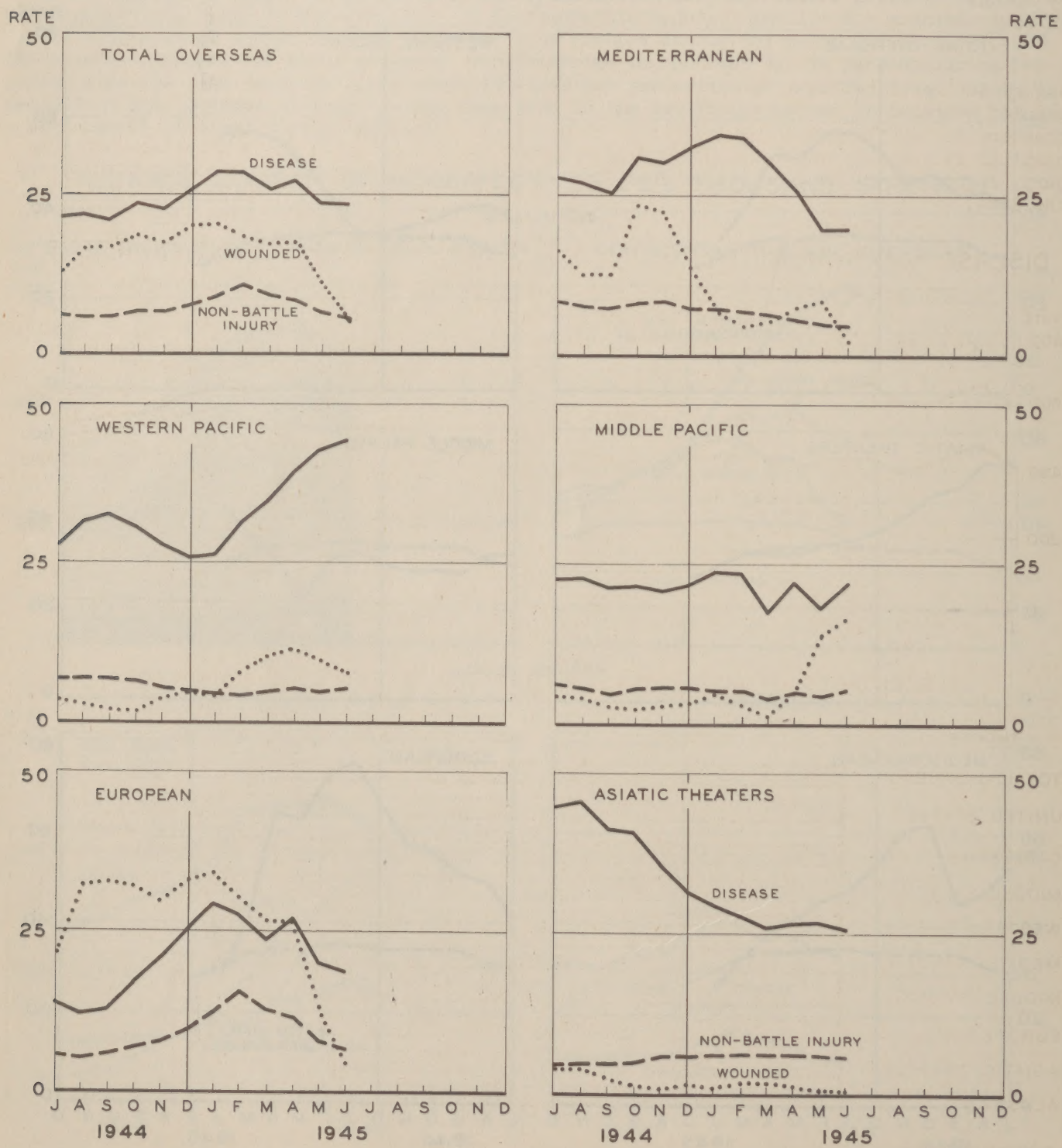
AVERAGE NUMBER OF NONEFFECTIVES PER THOUSAND STRENGTH
PATIENTS IN HOSPITAL AND QUARTERS, ALL CAUSES



NONEFFECTIVES IN HOSPITAL AND QUARTERS, U. S. AND OVERSEAS (Continued)

creases in both the wounded and the disease components. Noneffectiveness from disease in the Western Pacific increased further during June, reaching 44 per thousand strength, which is higher than that for any month since June 1943. However, declines in the other components brought the total rate slightly below that for May. The June rates for all Army forces in the Pacific are 36 for disease, 5 for nonbattle injury, and 11 for wounded. The noneffective rates for wounded continued to decline in June for all theaters except the Middle Pacific. For the first half of this year, the most striking reduction occurred in the European Theater where only about 5,000 wounded patients were remaining at the end of June, while the sharpest rise was in the Middle Pacific. With the termination of hostilities on Okinawa in June, the noneffective rate for wounded in this area may be expected to decline in July as patients are returned to duty and evacuated from the theater.

AVERAGE NUMBER OF NONEFFECTIVES PER THOUSAND STRENGTH
PATIENTS IN HOSPITAL AND QUARTERS, MAJOR CAUSES



ADMISSIONS TO HOSPITAL AS PROPORTION OF ADMISSIONS TO HOSPITAL AND QUARTERS

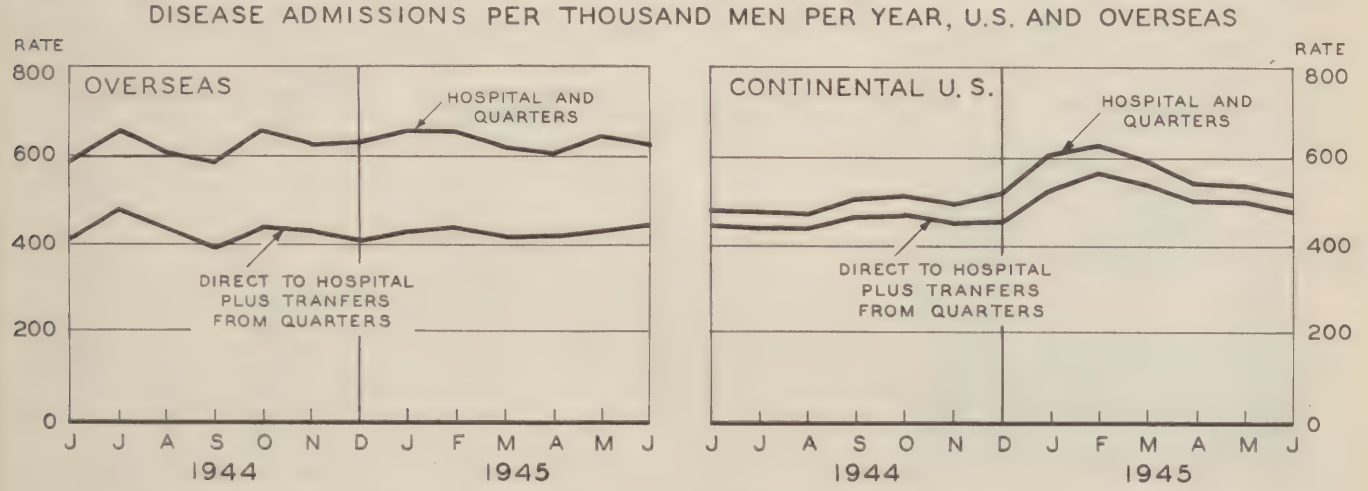
In view of the fact that radio reports of admissions in overseas theaters will henceforth include only admissions to hospital directly or by transfer from quarters, and that complete counts of admissions to hospital and quarters will lag behind from one to three months, future issues of HEALTH will rely upon hospital admissions only in summarizing gross trends. These rates will be slightly less sensitive to fluctuations in the morbidity picture overseas insofar as these are based on such diseases as malaria, venereal disease, respiratory disease, and diarrheal disease, for which many patients are not sent to hospital.

The charts below indicate the approximate proportion of total admissions which will be included in the hospital admission rates. For troops overseas, disease admissions to hospital in March 1945 averaged two-thirds of the total to both hospital and quarters while for troops in the United States the ratio was slightly higher than 90. For injury admissions the ratios were similar to those for disease. These proportions have been relatively stable, as may be seen from the upper panels which record both hospital and hospital and quarters rates by months for the past year for troops overseas and in the Z/I. The trends and fluctuations in both series are seen to move in parallel fashion.

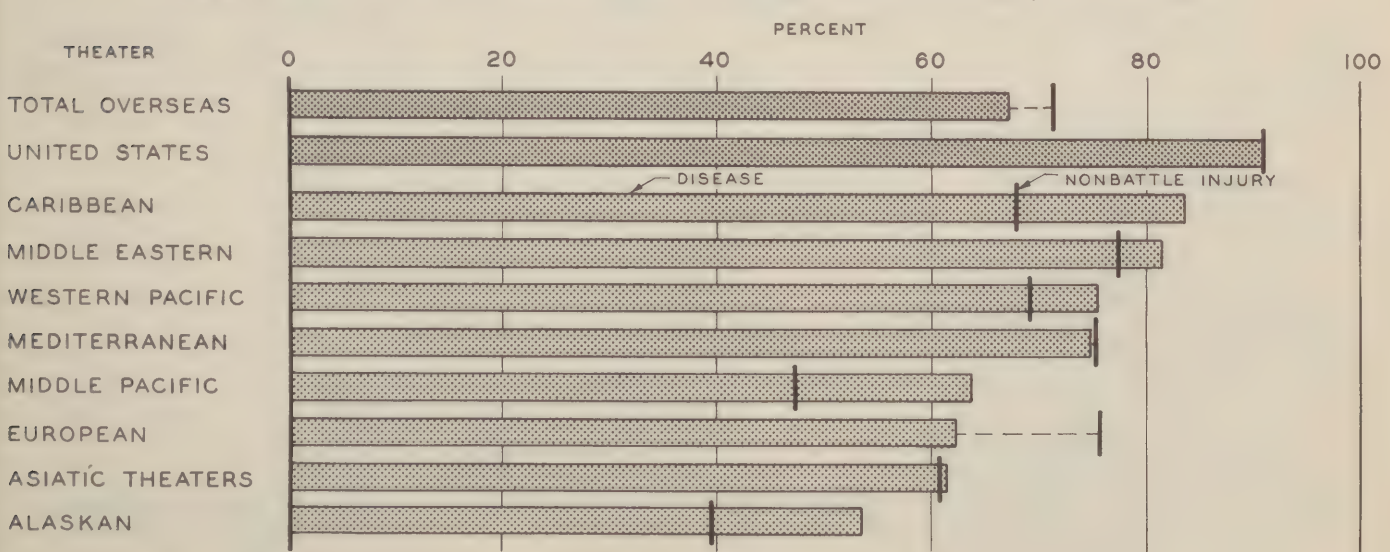
A summary of the ratios of hospital admissions to all admissions for disease and injury during March 1945 is presented in the lower panel below. Hospital admissions for wounded averaged about 85 percent for all theaters, but ranged from 82 percent in the Asiatic theaters to 98 percent in the Mediterranean. Such variations arise from many causes, e.g. hospital facilities available, completeness of admission count, severity of disease or injury, degree of tactical activity, distance between forward installations and hospitals, and the like.

DISEASE AND NONBATTLE INJURY ADMISSIONS TO HOSPITAL AND QUARTERS

DISEASE ADMISSIONS PER THOUSAND MEN PER YEAR, U.S. AND OVERSEAS



PERCENTAGES OF ALL ADMISSIONS TREATED IN HOSPITALS,* MARCH 1945



* Direct admissions plus transfers from quarters as percentages of admissions to hospital and quarters.

DISEASE, INJURY, AND BATTLE CASUALTY ADMISSIONS TO HOSPITAL

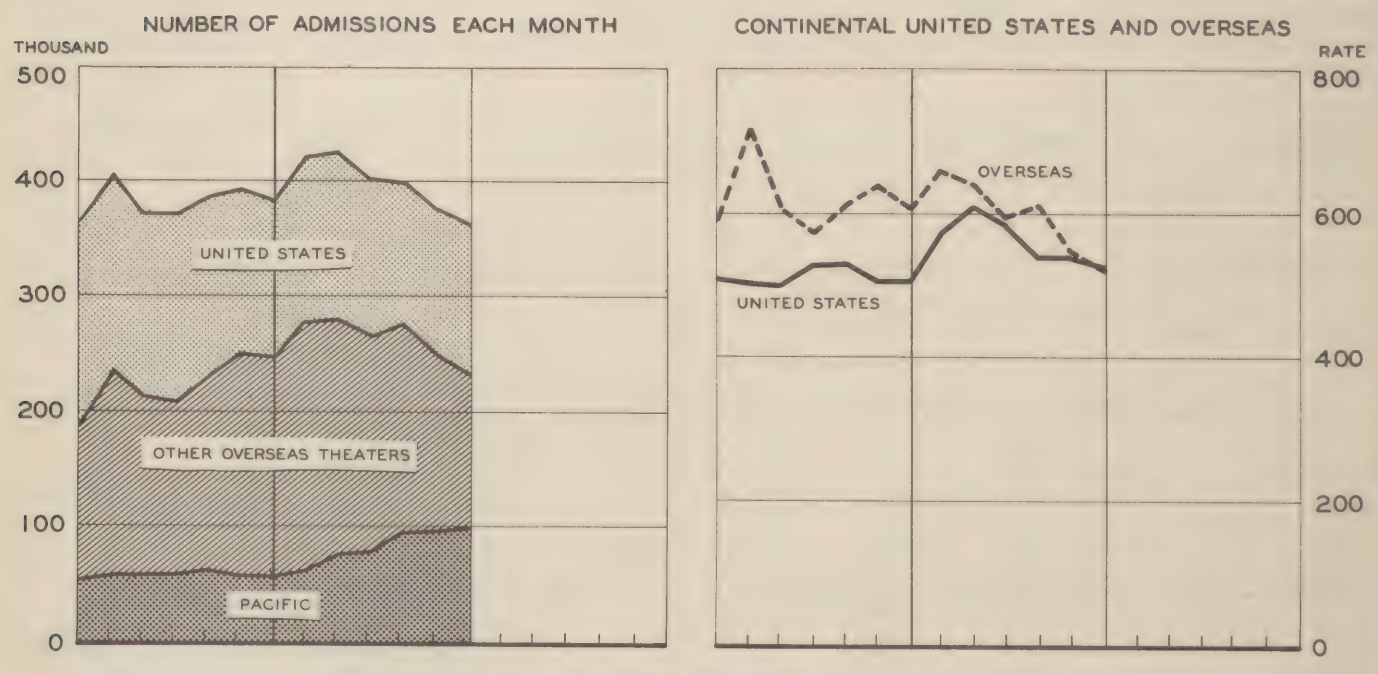
Hospital admissions in the Army overseas continue to diminish. They reached 230,000 during June, well below the level of about 275,000 which prevailed during the winter, and now approximate those of last October. Hospital admissions in the Pacific, however, have almost doubled in the past year, as is evident from the lowest stratum of the top left-hand panel below. For the Z/I the number of hospital admissions continues at about 130,000 per month. In rate form overseas hospital admissions are the lowest in over a year, while in the Z/I the downward trend has yet to continue to a point below that prevailing early last winter.

The two lower panels trace the course of admissions by major cause both in the Z/I and overseas. Although the fluctuations in admissions for nonbattle injury in the Z/I are relatively large, their number is so small that the curve for all causes is determined primarily by the trend in disease admissions. The overseas curve for all causes contains the wounded, which imparts much of the element of fluctuation evident there. The rates for wounded do not agree with those in the statistical table on page 45 because they are adjusted to four-or five-week months to correspond with the data on disease and nonbattle injury.

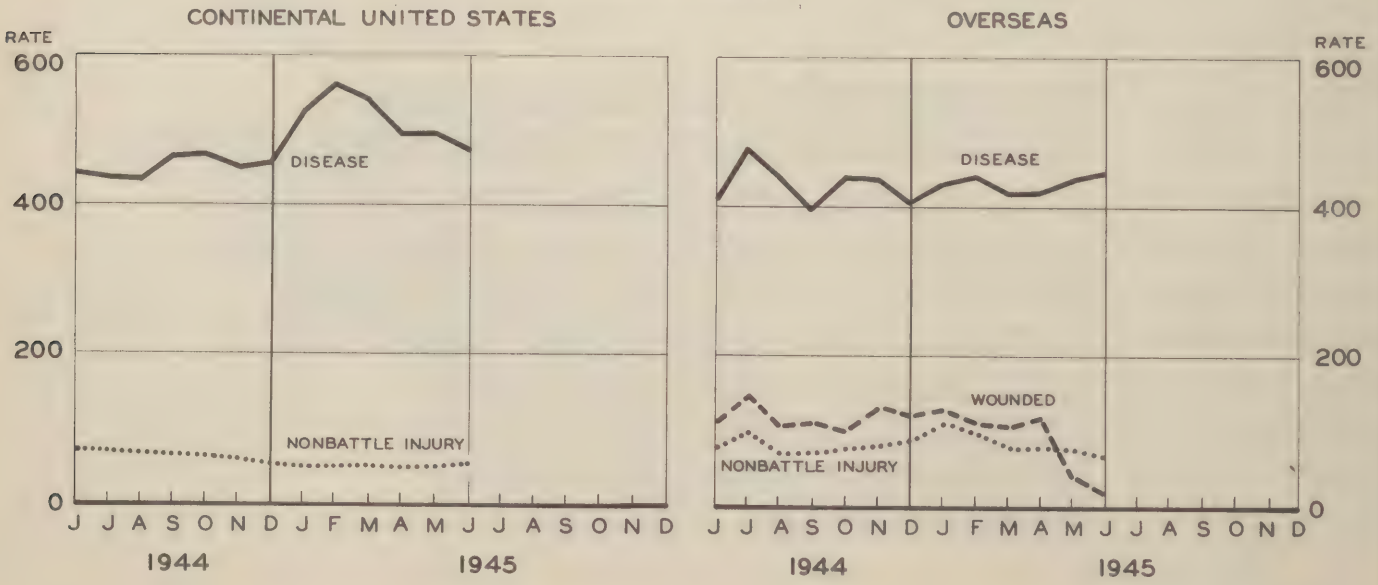
DISEASE, NONBATTLE INJURY, AND WOUNDED HOSPITAL ADMISSIONS

RATES PER THOUSAND MEN PER YEAR

ALL CAUSES



MAJOR CAUSES



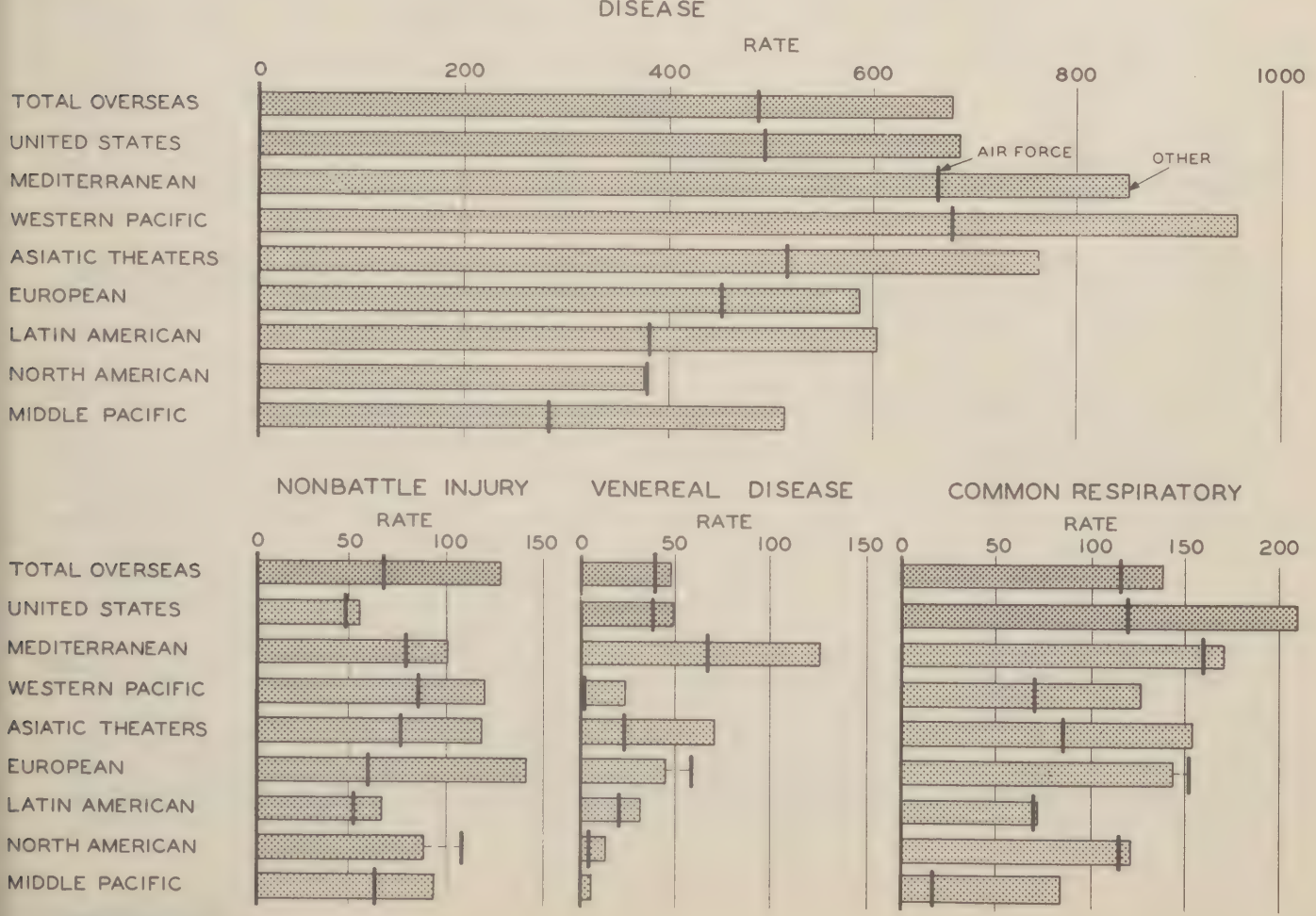
DISEASE AND INJURY

ADMISSION RATES FOR THE ARMY AIR FORCES

Disease and nonbattle injury admission rates for the Army Air Forces both overseas and in the Z/I during the first quarter of 1945 continued lower, in general, than for ground and service troops. Data compiled by the Air Surgeon show that the disease admission rate for air force strength overseas averaged 488 per thousand per year, a striking contrast to the 677 for all other arms and services. In the United States the corresponding rates during the same period were 492 and 685, respectively. For nonbattle injury the rate of 67 for the air force troops overseas was but slightly more than half that of 127 recorded for all other Army strength overseas. In the Z/I, however, the two rates were of the same order of magnitude. The charts below compare separately the disease and injury admissions, theater by theater and in the U. S., for air force and for all other troops for the first quarter of 1945. The disease rates for air force personnel were generally much lower than those for other Army personnel, but were about the same in North America. They were proportionately lowest in the Middle Pacific. In the case of non-battle injury the rate for air force strength in North America was also out of line, being, in fact, well above that for all other troops there.

Admission rates for the two leading groups of communicable diseases, the respiratory and the venereal diseases, are also compared in the charts. For both these causes the highest admission rates were experienced by the air force troops in the Mediterranean, but those for air force strength in Europe were almost as high. Indeed, in the latter theater the two admission rates for air force personnel were even higher than those for ground and service troops. For the diarrheal diseases, the third most important group, air force admission rates were generally more favorable than those for other troops. They were highest in the Asiatic theater which usually has the highest theater rates. For the first quarter of 1945, however, the rates for ground and service troops in the Western Pacific were even higher than those for the Asiatic theaters. The greater exposure of ground and service troops to infectious hepatitis is indicated by the fact that the air force rates were but a fraction of those for other troops in both the Mediterranean and the Western Pacific. In the latter theater, in fact, the two rates were two and 60 for the first quarter of 1945.

ADMISSIONS PER THOUSAND MEN PER YEAR. AIR FORCE AND OTHER TROOPS
OVERSEAS THEATERS AND CONTINENTAL U.S., JANUARY - MARCH 1945



VENEREAL DISEASE IN THE EUROPEAN THEATER

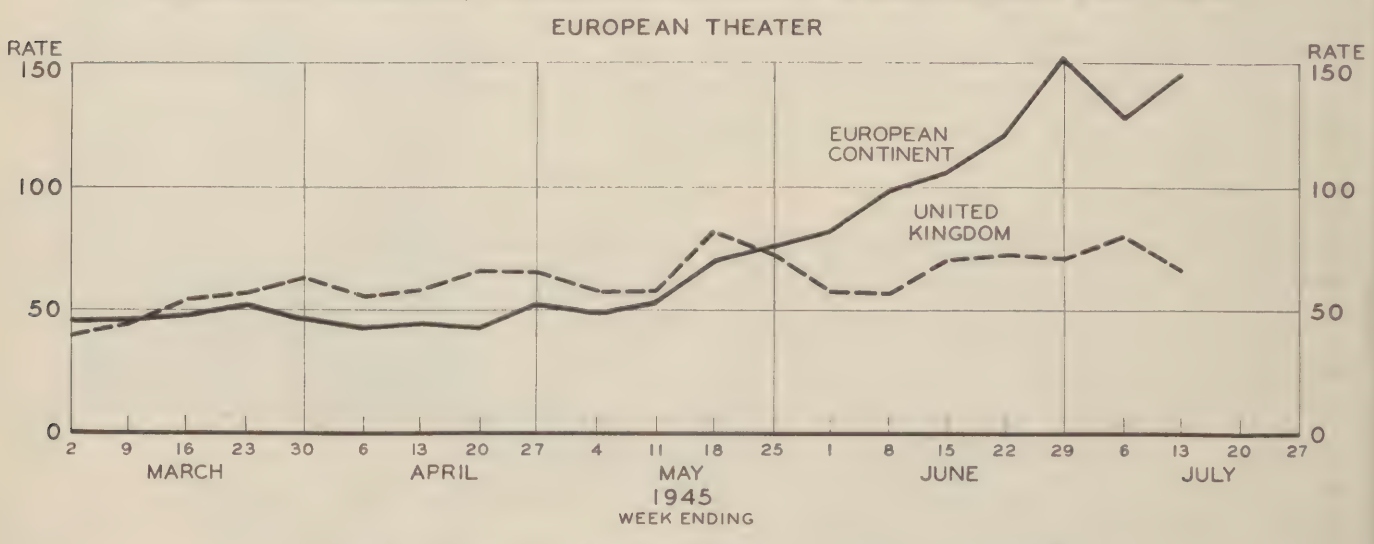
Until V-E Day, venereal disease incidence in the European Theater seemed reasonably well controlled, a rate of about 50 per thousand men per year having obtained since November 1944. Shortly thereafter, however, the admission rate for troops on the Continent began an upward climb which reached 152 at the end of June before showing any tendency to decline. Rates for the first two weeks of July were slightly lower at 128 and 145, according to provisional epidemiological reports. The first panel below provides weekly series for both the Continent and the United Kingdom from the beginning of March through the middle of July. Although the rate for the U.K. is generally higher than before, it has not followed the upward path of the rate for the Continent.

The present episode in the European Theater follows closely upon a somewhat similar epidemic outbreak on Luzon, as pointed out in HEALTH for June. The chart at the bottom of the page compares these two outbreaks with the first such major transition in venereal disease incidence which occurred in the Mediterranean in the autumn of 1943 after Naples had fallen to the Allies. Although the factors surrounding each are somewhat different, they have a common basis in the sudden granting of sexual access to a highly infected civilian population. In the European Theater the greatest changes have occurred in the extent of infection in the several armies. Typically, the field army rates of ten to 25 for March had given way to rates of 100 or more by the end of June.

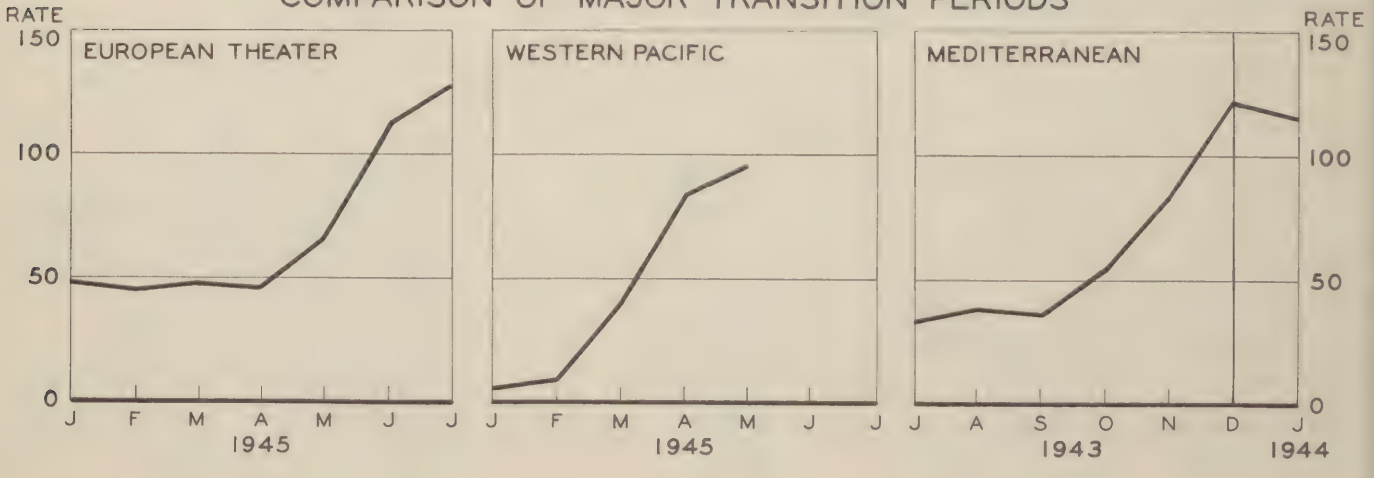
Paris continues to be a major focus of infection, and there is evidence of an increase in civilian incidence which coincides with a downward trend in police activity. Infections acquired in Germany have mounted even more rapidly, however, amounting to 30 percent of the total for the week ending 22 June. The fact that this number of cases was acquired, with almost no localization of foci, can mean only that both promiscuity and venereal infection are widespread in Germany.

VENEREAL DISEASE, ADMISSIONS PER THOUSAND MEN PER YEAR

EUROPEAN THEATER



COMPARISON OF MAJOR TRANSITION PERIODS



PROBLEM OF CIVILIAN MEDICAL CARE IN THE PACIFIC

With the invasion of the Marianas there developed a new dimension of medical responsibility in the Pacific war, that of maintaining civilian health in operational areas at a level calculated to interfere least with the military effort. The problem increased in scope as larger and more densely populated areas were wrested from enemy control. In the Southwest Pacific Area, it was first encountered in serious form on Leyte, but on Luzon, and especially in Manila, it was demonstrated conclusively that future operational plans must include a medical organization with adequate means to provide medical care to civilians and internees, and to re-establish public health controls.

USAFFE headquarters included a civil affairs section, and special units, the Philippine Civil Administrative Units (PCAU's), were organized before the invasion. Under operational conditions PCAU's were attached to tactical units for staff control of measures necessary to cope with civil affairs problems. However, these units possessed insufficient medical means, and during periods of active operations Sixth Army had to assume the major portion of initial civilian medical care, later assumed by the service command. Medical plans specified Army care for civilians until civil affairs units were operating. PCAU medical supplies were slow in arriving and indigenous resources of medical personnel and supplies proved highly inadequate. As both civilian and Army casualties were moderate at the time of the original landings on Luzon, the necessary volume of civilian care was easily managed by Army tactical units. Wherever forward medical installations moved in populated areas of Luzon, however, they were beset by the problem of civilian care and by difficulties in establishing satisfactory civilian hospitals with indigenous personnel.

Entrance into Manila presented a major health and medical problem which at the outset taxed Sixth Army facilities to the utmost, since all Army hospitals were functioning to capacity in service of the troops and all combat units were in active contact with the enemy. Moreover, Manila lay at the end of a supply line 130 miles long with traffic badly hampered by one-way, temporary bridges. The civil affairs problem had two parts, one the care of civilians interned in camps established by the Japanese, the other the care of large numbers of civilian casualties and the re-establishment of facilities for the control of disease among the populace so as to minimize hazards to the health of Army troops.

The civilian internees were starving and in need of medical care. For the internees at one camp there was provided a medical clearing company authorized to transfer patients to any of the three evacuation hospitals supporting the Manila operation. It was established as a provisional hospital at Santo Tomas University, the main internment camp, and later strengthened by a team of 100 nurses and 22 medical officers. It also took bed-patients from Bilibid Prison, operated on large numbers of civilian wounded, and administered complete medical care until 24 February when it was replaced by a field hospital. For two weeks the camp was within range of shell-fire and sanitary conditions were initially quite unsatisfactory. A field hospital and later an evacuation hospital were also located at New Bilibid Prison to care for large numbers of Sixth Army patients, civilians, guerrillas, and internees.

To meet the civilian public health problem in Manila the eight PCAU'S attached to XIV Corps, Sixth Army, were distributed so as to cover each district in the city. The medical officer of each unit was responsible for furnishing any civilian hospitals in his district with medical supplies and food, and for establishing a working organization of civilian physicians, nurses, and other employees. An Army medical depot was opened on 7 February and vast quantities of medical supplies were issued to the PCAU surgeons, but requisitions of Army units continued to have first priority. The two largest civilian hospitals were augmented by surgical teams from Sixth Army hospitals, and at least one Army hospital performed surgery on civilians before transferring them to civilian hospitals. Re-establishment of civilian hospitals was rendered difficult by the inexperience of civilian medical personnel in traumatic surgery. Small provisional hospitals were established on a temporary basis and by 1 March Manila had 4,785 beds in civilian hospitals.

It has been roughly estimated that there were 10,000 to 12,000 civilians wounded in Manila. Heavy street fighting in a city of 800,000 could not fail to produce large numbers of civilian casualties. Many of the wounded could not be given adequate surgical care. It is estimated that there were perhaps 500 cases of tetanus among civilian wounded, of whom 389 or almost 80 percent died. In contrast, there were no cases among U.S. Army personnel who are immunized against tetanus. The proportion of tetanus patients dying from this infection had risen throughout the period of Japanese occupation because of supply shortages, and at the time Manila was recaptured civilian physicians lacked the means necessary to combat it.

Combat within the city also destroyed or damaged public utilities. The city water

PROBLEM OF CIVILIAN MEDICAL CARE IN THE PACIFIC (Continued)

system was out of operation during February and much of March, and it was necessary for engineer water supply companies to serve both civilian and military needs. Water sources were heavily contaminated but potable water was obtained by heavy chlorination. Sanitary conditions had deteriorated dangerously, with vast amounts of uncollected garbage and waste, a huge fly population, numerous unburied dead in the streets and buildings, extreme congestion in dwelling areas, and insanitary conditions in markets and among food peddlers. Prostitution was widespread and a sharp rise in Army venereal disease rates was soon apparent. These problems were squarely faced by the XIV Corps during the February combat phase and some progress had been made by the time USAFFE assumed operational control about 1 March. A beginning had been made in the direction of rehabilitating the damaged water and sewage-disposal systems, a supply of drinking water had been improvised, some of the dead had been buried, and garbage and waste disposal had been begun. The city was otherwise without public health surveillance, and Manila was about to assume the status of a huge base. Moreover, absence of any system of reporting communicable diseases made it impossible to detect signs of incipient epidemics, and the hospitals were still overcrowded and short of medical equipment and personnel.

The first step by USAFFE was the institution of a provisional city health department managed and partly staffed with U. S. Army personnel. Malaria control and survey units, PCAU medical personnel, sanitary engineers, a provisional truck company, a detachment of a supply depot, and other Army medical facilities were combined with available civilian resources. Health districts were established and staffed by a PCAU medical officer, assisted by an epidemiologist, a sanitary engineer and a malaria control unit. City-wide garbage collection and disposal were instituted. Insect control was furthered by systematic spraying with DDT in oil and by periodic airplane spraying. The city was cleared of thousands of dead bodies and a regular burial service established. Continuous sanitary inspection and control of food markets, abattoirs, and all eating places were effected, with prompt closure of those failing to meet sanitary standards. As water scarcity continued for several months it was necessary to supplement the piped water supply, chlorinated at source, with haulage of chlorinated water to distributing points. The underground sewerage system was inadequate and several hundred temporary comfort stations were constructed.

The hospitals, clinics, and dispensaries of the city were supplied with relief food by the PCAU. Medical supplies were furnished from a central warehouse. Temporary emergency hospitals were closed as rapidly as the patient load could be redistributed among the civilian hospitals being reopened or expanded. At the outset the imperative need for information on communicable disease and death was met by the daily collection of reports by courier. Initially the incidence of reported enteric disease was alarmingly high but with improvement in sanitation and destruction of the fly population it fell by 72 percent in less than ten weeks. No cases of cholera or smallpox occurred. Tuberculosis was the chief cause of death with an estimated death rate in excess of 600 per 100,000 per year. Malnutrition and deficiency diseases were prevalent. Insofar as bed capacity permitted all cases of communicable disease were removed to the city's contagious disease hospital. An extensive mass immunization of the population was reinstituted along the lines followed in Manila in pre-war years, but was hampered by scarcity of biologicals, equipment, and personnel.

The health of American troops in Manila was definitely influenced by their exposure to local conditions. Despite an energetic program for the detection and treatment of venereal disease among civilians, the very low Army venereal disease rate in New Guinea was replaced by a soaring rate in the Philippines, especially in Manila. There was also a serious increase in the enteric disease rate. It must be regarded however as very fortunate in view of the condition of the city during the invasion that epidemic outbreaks of more serious diseases did not occur.

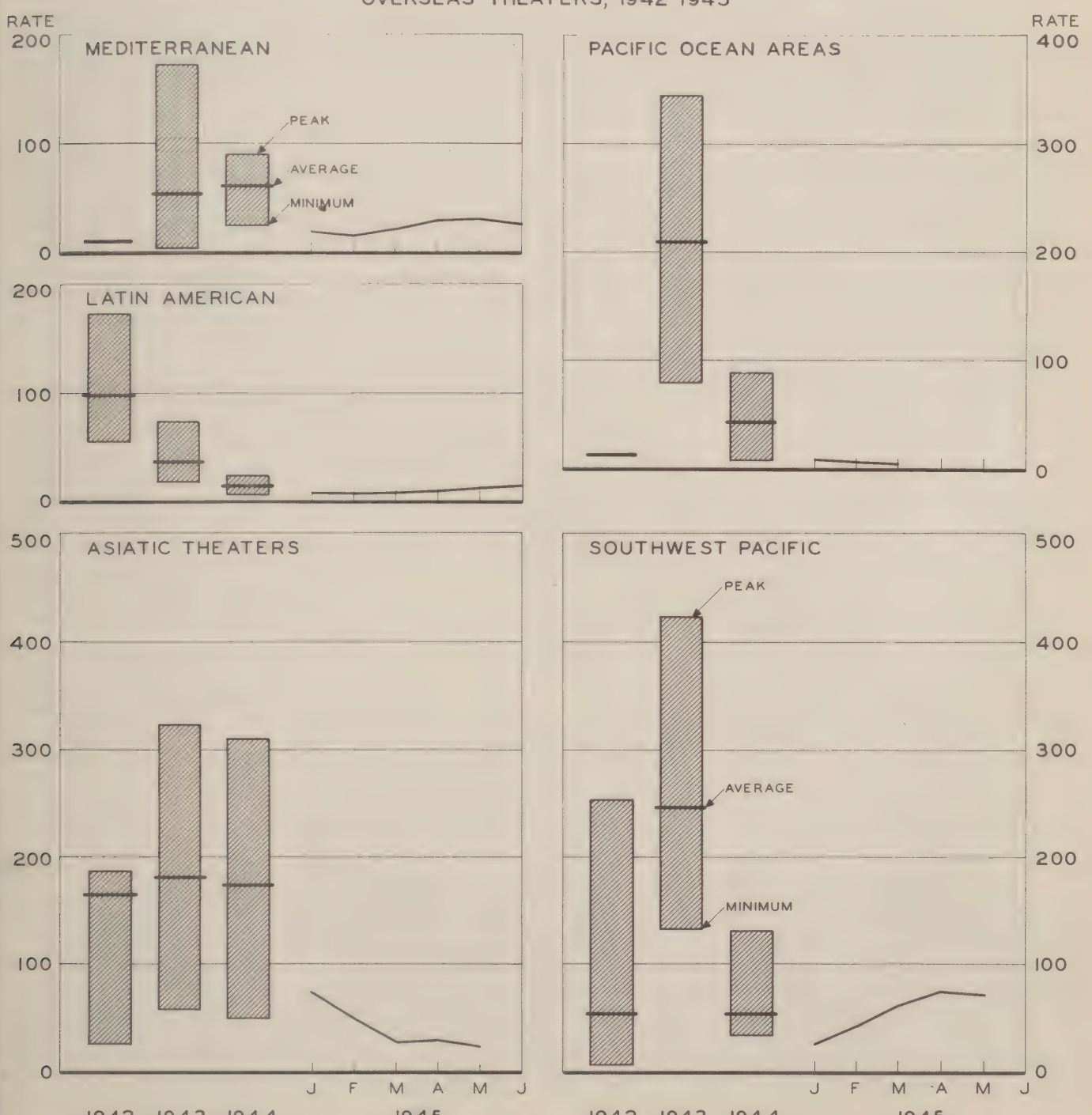
For forthcoming operations there has been devised a plan which will provide for a more adequate handling of the civil affairs problem in the Pacific. It calls for an operating organization in direct contrast to the previous staff organization. This organization will include echelons of medical care comparable to those now employed by the Army, e.g.,collecting stations, clearing stations, field hospitals, all to be manned by Army personnel and consisting of standard Army items of equipment and supply, but organized according to special T/O and E's. An entirely separate system of medical care and evacuation will thus be provided, starting with the most forward areas, so that tactical units will not be burdened by civilians. A separate supply system will be maintained up to the combat area, where common supply points will be used.

MALARIA

Malaria remains a constant threat to the effective strength of the Army, especially in the Pacific. While the currently low admission rates prove that malaria no longer exacts the toll which was paid in 1943, they cannot be viewed as evidence that the problem has been entirely solved. Low rates will continue only so long as effective atabrine discipline and mosquito control measures are rigidly enforced. The recent invasion of Luzon has again demonstrated that advances into malarious areas may still be expected to increase admission rates considerably. In January 1945 the rate for the Southwest Pacific stood at only 27 per thousand men per year, but by April it had reached 75, and for troops in the Philippines the rates were even higher although but a fifth of those prevailing at the end of the Buna-Gona campaign. Moreover, because of the success which can be achieved with rigorous atabrine discipline, even continuously low malaria admission rates do not rule out further malaria transmission on a large scale. Under combat conditions, as on Luzon, any lapse in atabrine suppression may cost heavily in clinical malaria.

MALARIA ADMISSIONS PER THOUSAND MEN PER YEAR

OVERSEAS THEATERS, 1942-1945



MALARIA (Continued)

Through May 1945 there had occurred roughly 410,000 malaria admissions in the entire Army since the start of the war, of which 340,000 were overseas and 70,000 in the Z/I. Because of the tendency of vivax malaria to relapse, and because many men with vivax malaria may not yet have had their first attacks, it is impossible to specify how many men have been infected. However, it is probably at least 250,000. Entirely apart from the problem overseas, the mere return of these men (especially those infected within 12 months of their return) to the Z/I creates a problem of unknown extent in the form of first attacks and repeated relapses once atabrine suppression is discontinued. It has been recommended by The Surgeon General that, after a first attack in the Z/I has marked a returnee as having malaria, he be kept on atabrine suppression for a period of time, usually three months (relapses do not appear until another month has passed). If a relapse occurs following cessation of suppressive medication, the continued use of atabrine is resumed. Experience shows that at least a third of individuals having an attack do not have a further relapse. Several directives have been issued which reinforce this policy. Whereas there were approximately 1,400 malaria admissions among returnees each week during February and March 1945, this number had fallen to 800 by the first week in August.

The malaria admission rates shown in the accompanying charts pertain to disgnosed malaria only. No allowance is made for the undetermined number escaping under the guise of fever of unknown origin. The vertical bars give the wide range within which the monthly rates fell during 1942, 1943, and 1944. The top and bottom of each bar represent the maximum and minimum for the year, and the line across each bar denotes the average for the year. The 1945 monthly rates appear in line form to the right. The great reductions which have been made in malaria incidence are not confined to the Pacific, but extend also to Latin America where very dramatic improvements have taken place, and now also to the Asiatic theaters. It will be seen that until 1945 there was no improvement in the Asiatic admission rates, but the rate for May 1945 is the lowest on record and barely one fifth the May rate for 1944. The great improvement in the Asiatic theaters reflects both reduced transmission and the suppression of clinical malaria. With the cessation of active combat and the completion of the Stilwell Road, proportionately more men are now living under conditions where anti-mosquito measures can be effectively carried out. An additional factor of importance is the change in theater policy with respect to suppressive atabrine, which is now for the first time being enforced in the areas of greatest risk.

DENTAL SERVICE IN A COMBAT DIVISION

The following extract from the 1944 medical history of the 88th Infantry Division provides a good summary of dental problems and activities in a combat division.

"On 1 January 1944 the division was in North Africa having just completed its movement overseas. As soon as possible, all unit dental officers were set up in their unit aid stations. A survey was accomplished, the results of which were as follows:

Classification of Dental Need		Number	Percent
	TOTAL	13,735	100.0
I-D	Emergency Prosthetic Work	75	0.5
I	Other Emergency Work	0	0.0
II	Early Routine Treatment	505	3.7
III	Extended Non-urgent Treatment	127	0.9
IV	None	13,028	94.9

The Class I-D cases, those requiring prosthetic treatment, were the immediate problem. To care for these cases, one officer and two dental technicians were placed on detached service at a station hospital unit in a nearby town. During the month of January, seventy-two prosthetic cases were completed . . . entirely by division personnel.

"Approximately 1 February 1944 the division began its movement to Italy. The first location was a training area, where it remained from approximately February 6th to March 3rd 1944. During this period the equipment and materials for a division dental laboratory were acquired. Frequent substitutions had to be made because of the unavailability of certain items. For instance, a hand drill, mounted, was obtained from the division ordnance company, the shaft being cut down to fit the dental chuck. The dental lathe was not available for divisions at that time. During this period the unit dental officers accomplished routine dental care, working at their respective unit aid stations.

"On 3 March 1944, the division moved into the line. From that time until 11 May 1944 they were in a static combat situation, 'The Battle for Cassino'. The dental laboratory was set up in a building, while plans were made to construct a mobile dental laboratory. (Shortly thereafter the mobile dental laboratory became a standard item of equipment.) The body of a 2 1/2 ton truck was procured,and the laboratory was constructed by the division ordnance company. On 30 April 1944 the division mobile dental laboratory was completed. ... The mobile laboratory has proven to be the only answer to the division's prosthetic problem. One officer and two enlisted dental technicians have at all times been attached for duty at the laboratory. Through their efforts and (through) the convenience of the mobile laboratory, the prosthetic problem has been cared for in a very satisfactory manner. The total number of cases constructed in the laboratory during the year 1944 is as follows:

Prosthetic Appliances	Number
TOTAL	839
New Dentures	514
Dentures Reconstructed	64
Dentures Repaired	220
Dentures Rebased	2
Dentures Relined	7
Bridges Fixed	17
Inlays	15

"Routine dental treatment was accomplished by unit dental officers during this period, 'The Battle for Cassino', at the unit aid stations. The policy, as regards the infantry regiments, was usually to have one dental officer at the unit service company, and one at the regimental aid station. A very satisfactory amount of routine dental treatment was accomplished from 3 March to 11 May 1944. This is possible when the front is static, as it was during this period. All of the dental officers were able to set up their equipment, (and) had adequate space, light, etc., and patients were readily available.

DENTAL SERVICE IN A COMBAT DIVISION (Continued)

"On 11 May 1944 the division pushed off on the 'Advance on Rome'. The division remained in combat until approximately 10 June 1944, at which time it was relieved and went into a rest area. The amount of routine dental treatment accomplished from 11 May to 9 June 1944 was naturally less than that of the previous period. During an advance such as this, it is almost impossible for the dental officers to set up their equipment, except possibly at the service company, and then the number of patients available is definitely limited.

"The division remained in a rest area from 9 June to 6 July 1944. During this period a satisfactory amount of routine dental treatment was again accomplished. On 6 July the division resumed combat in 'The Pursuit North of Rome', and remained in combat until approximately 1 August 1944. At that time the division went into a rest and training area, where it remained until approximately 20 September 1944. During the period 1 August 1944 to 20 September 1944 an excellent amount of routine dental treatment was accomplished. For example, the number of restorations during this period was approximately thirty-two hundred. A dental survey was also accomplished.

"The division re-entered combat on 20 September (during the) 'Battle of Approaches to Po Valley', and remained in combat until approximately 1 November 1944 at which time each unit, with the exception of the division artillery, was given a ten-day rest period. During this combat period, 21 September to 1 November 1944, there was very little routine dental work accomplished. The division was always in a precarious situation, having its right flank exposed. The weather, particularly the mud, was also a definite factor, making it difficult to set up tents ... (and) ... buildings were scarce ... . Dental treatment during this period hit a new low. In the regiments it was confined almost entirely to emergency treatment. A fair amount of dental work was accomplished during the ten-day rest given each unit during November. However, it was too short a time to really accomplish anything. It takes time to set up and get into a routine. The men as well as the dental officers must have time in which to clean up, and receive a little relaxation after such a campaign as October provided. Then too, the unit is re-equipping the men, receiving replacements, and reorganizing.

"After the completion of the ten-day rest given each unit, they again returned to the front line about 21 November 1944. The situation was a little different, however ... (from that prevailing) ... since 11 May 1944. The front was static, and the amount of routine dental treatment rendered was accordingly increased. The division remained in this position for the remainder of 1944. The dental classification at the conclusion of 1944 was as follows:

Classification of Dental Need		Number	Percent
	TOTAL	13,472	100.0
I-D	Emergency Prosthetic Work	143	1.0
I	Other Emergency Work	38	0.3
II	Early Routine Treatment	1,612	12.0
III	Extended Non-urgent Treatment	136	1.0
IV	None	11,543	85.7

HEALTH BRIEFS

Immunization Against Influenza

Outbreaks of influenza caused by type B influenza virus occurred during April, May, or June in several scattered installations in the United States and in Oahu, Alaska, and Panama (see HEALTH for June). Considered in the light of other epidemiological factors, these outbreaks suggest the possibility of an epidemic of influenza during the coming winter. Recommendation has, therefore, been made by The Surgeon General to the Chief of Staff that all Army personnel both in the Z/I and overseas be vaccinated with influenza vaccine in October and November 1945. Immunization against influenza consists of a single injection of the vaccine and is attended by few reactions. The available supply of vaccine will permit its administration to all Army personnel. Also with the purpose of taking all possible measures to avoid outbreaks of respiratory disease, it was recently recommended that the Army increase its present minimum allowance of 40 square feet per occupant in Army barracks to the pre-war allowance of 60 square feet, exceptions to be allowed under emergency conditions.

Disease Incidence in the Philippine Islands

In HEALTH for June considerable emphasis was placed on the recent dramatic increases in the incidence of communicable diseases in the Philippines, notably venereal diseases, diarrheal diseases, malaria, hepatitis, and fevers of undetermined origin. The latest complete reports cover the month of May and indicate that the high admission rates for April were generally sustained and in many instances exceeded in May. Admissions for all disease advanced by eight percent, venereal disease by nine percent, respiratory disease by 17 percent, infectious hepatitis by 12 percent, and fevers of undetermined origin by seven percent. There was no change in the malaria rate and the incidence of diarrheal disease declined about five percent.

Body Armor for Ground Troops

In May there appeared in HEALTH an analysis of the effectiveness of weapons and of the possibility of body armor. Subsequently AFPAC accepted 8,000 armored vests offered for trial together with a War Department demonstration team, and prepared the way for a joint Ordnance-Medical Department analysis of field results in combat. The 8,000 vests were delivered to U. S. ports early in July for shipment to the Pacific by water. One hundred thousand of the heavier model will have been produced by 1 September, it is estimated. No further production is planned without some statement of theater requirements, which the theater has been asked to prepare as promptly as possible.

Availability of DDT for Insect Control

One of the chief factors in maintaining the health of troops in the Asiatic and Pacific theaters is the control of disease-transmitting insects, especially mosquitoes and flies. The greatest single aid to insect control has been the development of the new insecticide DDT (Dichloro-diphenyl-trichloroethane). Prior to 1943, no DDT was produced in the United States and during 1944 production was insufficient to fill Army needs. So short was the supply, in fact, that emphasis was placed on conservation of available supplies and on restriction of their use to the more critical situations. The production of DDT has now increased to a point where the Army can procure any quantity it desires, but the impression prevails throughout units in the field that a shortage still exists, and sufficiently large quantities are not being drawn. As a result, the stock levels of DDT items in Quartermaster depots in the Z/I are now excessively high while units in the field have too little to meet their entire need. In January 1945 theaters were notified of the increasing availability of DDT and they are now being informed of its full availability. The requisitioning and use of DDT insecticides to the limit of their effectiveness (see HEALTH for October 1944) will go far to insure maximum freedom from insects and minimum incidence of insect-borne diseases.

PLAN FOR HANDLING NEUROPSYCHIATRIC CASUALTIES OVERSEAS

Early in the war, it was found that existing facilities for handling psychiatric casualties in combat were unsatisfactory. When standard medical units and conventional channels of evacuation and return to duty were used in Tunisia, less than 10 percent of the psychiatric patients were salvaged. Subsequently, new methods and facilities were improvised by the Mediterranean Theater and later used in the European and Pacific theaters. These were successful in salvaging as high as 60 percent of the combat psychiatric casualties for full combat duty. However, these facilities have not been completely satisfactory since they lack uniformity, entail utilizing units for purposes other than those for which they were designed or trained, and necessitate the borrowing of personnel and equipment from other organizations.

The basic principles for handling combat psychiatric casualties have been shown by experience to be:

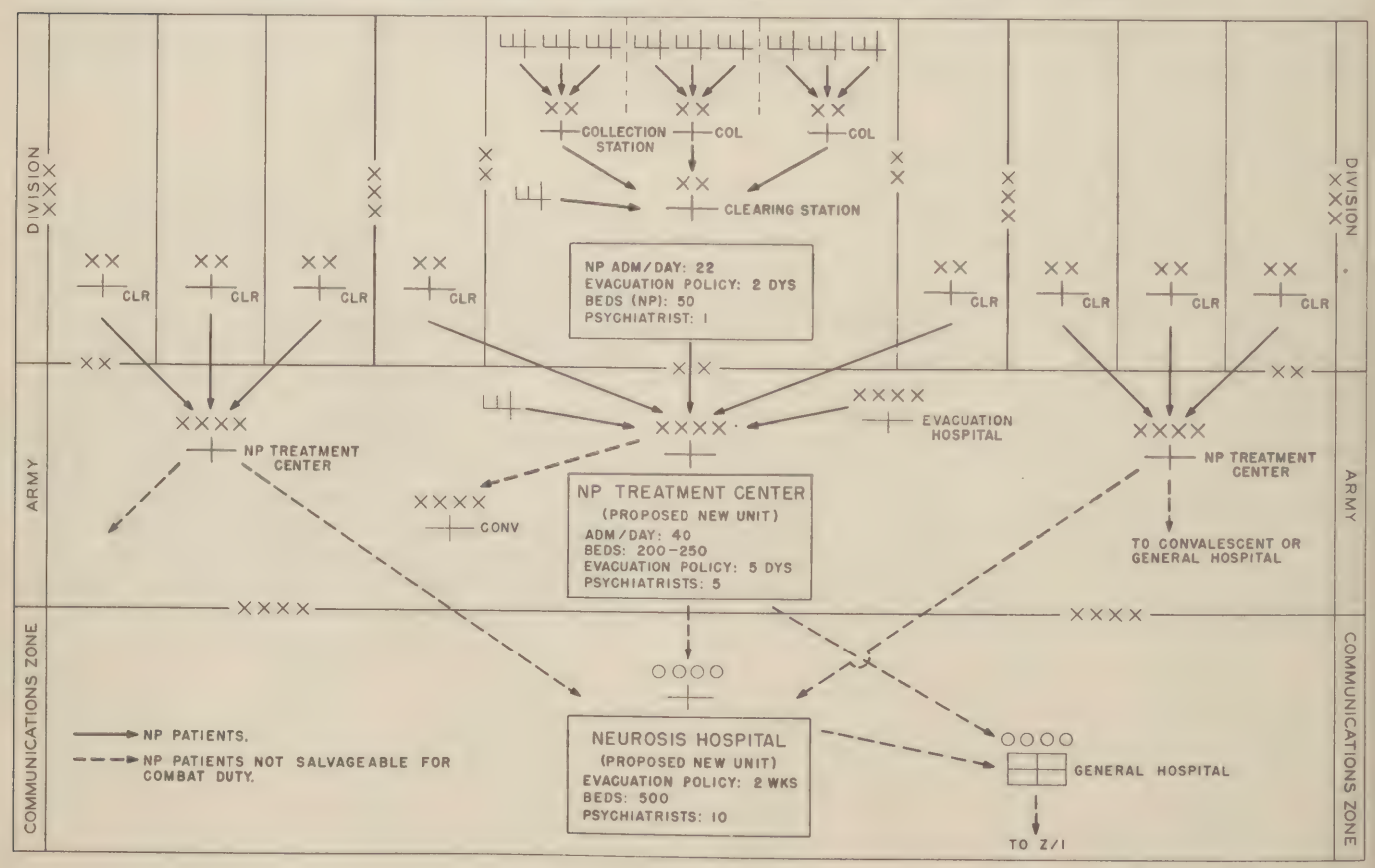
a. Treatment as far forward as possible. The farther forward such neuropsychiatric patients are treated the greater are the chances of returning them to combat duty. Existing facilities do not provide either sufficient bed space or sufficient trained personnel to treat neuropsychiatric patients in forward areas.

b. Centralization of triage and treatment. During combat there is a powerful tendency toward indiscriminate evacuation, particularly of neuropsychiatric casualties. Manpower is thus needlessly wasted, and the morale of those who remain is adversely affected. Effective, centralized control of treatment and of evacuation policies is needed to correct this situation but it cannot be adequately maintained with existing facilities.

c. Avoidance of hospital atmosphere. Although neuropsychiatric disorders represent genuine sickness and require professional care by specialized medical personnel, the great majority of patients do not require typical hospital facilities and actually may be harmed psychologically by a hospital atmosphere.

EVACUATION OF NP PATIENTS IN A THEATER OF OPERATIONS

FORWARD AREA TREATMENT AND CENTRALIZATION OF TRIAGE



PLAN FOR HANDLING NEUROPSYCHIATRIC CASUALTIES OVERSEAS (Continued)

It is evident that neuropsychiatric casualties should be handled according to a plan which is based upon the combined experience of theaters of operation, one which utilizes existing facilities to the greatest extent possible and which is adaptable to any type of operation, particularly in the Pacific. Such a plan has been drawn up by The Surgeon General in collaboration with the Surgeon, Army Ground Forces, and is now under consideration by the War Department for adoption and implementation.

Under the plan both standard, existing units (with certain minor changes in existing T/O and E's) and proposed new units would be utilized. Each of the proposed new units, or a modification of it, has already proved its value by extensive use in the field. The proposed new units are:

a. Rehabilitation and Training Platoon (Division Unit). At present these units are improvised by the division.

b. Neuropsychiatric Treatment Center (Army Unit). Separate clearing companies, gas treatment battalions, and other units are already being utilized in this fashion and are usually referred to as "Exhaustion Centers".

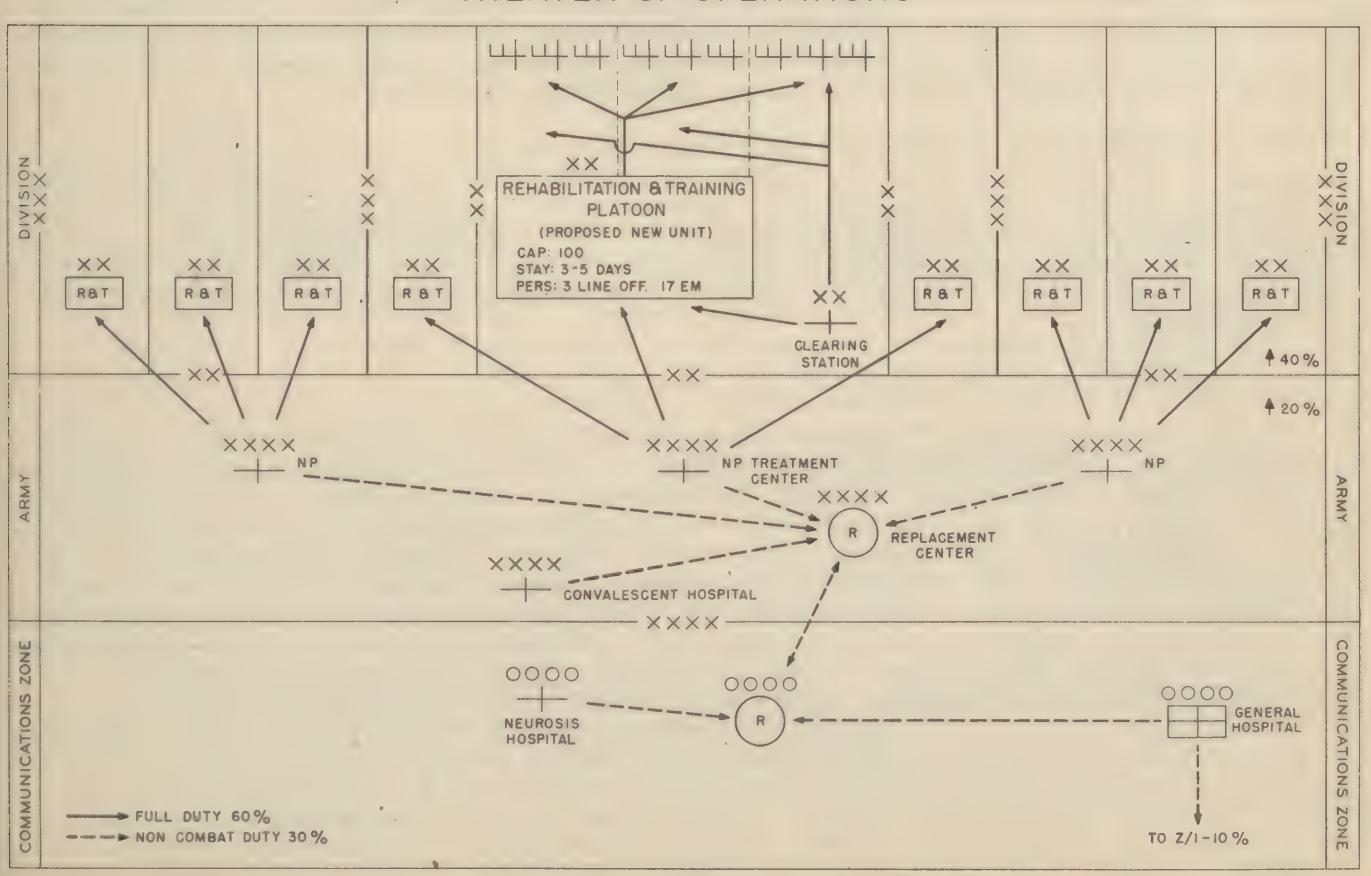
c. Neurosis Hospital (Communications Zone Unit). Station hospitals are currently employed for this purpose.

The chart on page 16 shows the channels of evacuation for neuropsychiatric patients according to the plan as it would apply to three divisions and rear echelons. Treatment in forward areas and central control of triage are assured. The chart below shows the channels and units utilized in returning neuropsychiatric patients to duty.

The organization and functioning of divisional units under the plan may be outlined as follows:

a. Battalion and Regimental Aid Stations. Neuropsychiatric patients are first evacuated to the battalion and regimental aid stations. No change is needed in present T/O

CHANNELS FOR RETURN TO DUTY OF NP CASES IN A THEATER OF OPERATIONS



PLAN FOR HANDLING NEUROPSYCHIATRIC CASUALTIES OVERSEAS (Continued)

and E's. Experience has shown that a large proportion of the neuropsychiatric casualties resulting from combat can be returned to duty from this level. Patients are returned to duty either directly or, when conditions permit, after mild sedation and a twenty-four hour rest in the company or regimental kitchen areas. Patients requiring further treatment are evacuated. One of the functions of the division psychiatrist is to supervise the diagnosis, treatment, and evacuation of neuropsychiatric patients by the battalion surgeon.

b. Collecting Stations. At the collecting stations no treatment is given neuropsychiatric patients, except for such sedation as may be necessary for further evacuation. In its triage, however, the collecting station performs an important function in picking up patients who have not been officially evacuated by their own battalion surgeons.

c. Division Clearing Stations. The division clearing station ordinarily receives 20 to 25 neuropsychiatric patients per day during heavy combat, with peak loads of 40 to 60 per day for periods of a week or more. No patient is held for more than 48 hours and serious cases are evacuated immediately. Approximately 50 litters or cots are ordinarily used for neuropsychiatric patients. No change is needed in existing T/O and E's except that approximately two enlisted men should have an MOS rating as psychiatric assistant (289 or 263). Experience has shown such personnel to be of value in diagnosis and treatment. During combat the division psychiatrist spends the major part of his time at the clearing station, taking an active part in the diagnosis, treatment, and disposition of patients. However, he acts only in the capacity of a consultant. The responsibility for handling neuropsychiatric patients resides in the clearing company, which should be sufficiently well trained to discharge this responsibility under the supervision and with the assistance of the division psychiatrist. Up to 40 percent of the neuropsychiatric patients are returned to full combat duty at this level, either directly or through the replacement and training platoons.

d. Rehabilitation and Training Platoon. Neuropsychiatric patients who will be returned to duty from the clearing station but who require further rehabilitation before rejoining their unit in combat are sent to the rehabilitation and training platoon. This is a proposed new unit (non-medical) attached to the division headquarters company, and is to operate near the clearing station. Here the men are given three to six days of physical conditioning, battle training, and orientation on a duty status. The unit requires approximately three experienced line officers, 17 enlisted men, and self-sustaining field equipment for approximately 100 trainees. The division psychiatrist acts as a consultant to this unit also. In the Fifth Army such a unit has been standard for every division. In salvaging manpower divisions in the European and Pacific theaters have also found this unit of great value as an adjunct to the clearing station. In certain instances it has been used for the orientation of new replacements as well as for neuropsychiatric patients.

e. Division Psychiatrist. The division psychiatrist is on the staff of the division surgeon, assisting him to advise command on matters of policy and procedure which affect the mental health of military personnel. He acts as a consultant and supervises the treatment and disposition of neuropsychiatric patients at the division clearing station and at the regimental and battalion aid stations. Appropriate T/O and E's of the medical section, division headquarters, require change to provide the division psychiatrist with adequate assistants and equipment.

The proposed operation of army units is as follows:

a. Neuropsychiatric Treatment Center (Army). From the division clearing stations, neuropsychiatric patients are evacuated to a neuropsychiatric treatment center. This new unit is to operate immediately behind the divisions, six to ten miles behind the front. Three of these are to be provided each army, one to serve each corps (or one per three divisions). These three centers represent the chief centers for triage and treatment of neuropsychiatric patients at the army level, replacing the usual twelve evacuation hospitals in this function. Patients are received primarily from the divisions, but also from all other army installations, including evacuation hospitals. No neuropsychiatric patient is evacuated from army who had not been through one of these centers, unless concomitant surgical or medical conditions make this necessary. Ordinarily each center receives approximately 40 neuropsychiatric patients per day during heavy combat with peak loads up to 80 per day. This unit has a patient capacity of 200, expansible to 250, and is roughly equivalent to an enlarged platoon of a medical clearing company supported by approximately five psychiatrists on the staff. Patients are held three to five days. Those considered salvageable for combat duty are not evacuated beyond this echelon. Patients salvageable for non-combat duty are also treated here except when the patient load becomes too great, in which event they are evacuated to the 1,000 bed convalescent hospital discussed below. More serious cases are evacuated immediately to the Communications Zone.

PLAN FOR HANDLING NEUROPSYCHIATRIC CASUALTIES OVERSEAS (Continued)

In addition to the 40 percent who can be returned to combat duty at the level of the division clearing station, another 20 percent of all neuropsychiatric casualties can be returned to combat duty from the army neuropsychiatric treatment center. This represents approximately one-third of the neuropsychiatric patients received from the divisions. The centers have the important function of providing reserve support for the divisions. When the patient-load in forward echelons makes it impossible to hold neuropsychiatric patients for treatment at the division level, they are evacuated to the army treatment centers which can absorb these peaks by holding only those cases expected to return to combat duty. In this way, 60 percent of the patients can still be returned to combat duty with a minimum amount of specialized personnel and equipment, and without risking the adverse effects upon morale and operations which indiscriminate evacuation of neuropsychiatric patients always causes. This result cannot be accomplished by the conventional use of evacuation hospitals or other existing units.

b. Evacuation Hospitals. No recognized neuropsychiatric patient is to be sent to an evacuation hospital except when necessary on medical or surgical grounds. However, a psychiatrist will be retained in each evacuation hospital in order to detect psychiatric patients not previously recognized as such, and to prevent leaks in evacuation screening by ensuring their transfer to army neuropsychiatric treatment centers. Finally, a psychiatrist is needed to provide consultation for certain medical and surgical patients.

c. Convalescent Hospitals. Neuropsychiatric patients considered salvageable for combat or non-combat duty within the army area, and who require more prolonged treatment than it is feasible to give at the army neuropsychiatric treatment centers, are sent from such centers to the convalescent hospital. It is proposed to modify the present army convalescent hospital to provide a specific section for treating neuropsychiatric patients. It is included in the present plan for handling neuropsychiatric cases on the assumption that the change will be approved. Although the convalescent hospital is intended primarily for medical and surgical patients, one or two psychiatrists will be assigned there to treat neuropsychiatric patients and to provide consultation required for other patients.

d. Army Consultant in Neuropsychiatry. The army neuropsychiatric consultant serves on the staff of the army surgeon. It is his responsibility to assist the surgeon in advising command on policies and procedures which affect the mental health of army personnel. He also supervises treatment and triage of neuropsychiatric patients within the army. At present he is designated as an assistant medical consultant to the surgeon. He could function more effectively if the position were redesignated as that of the neuropsychiatric consultant and if he were given rank equivalent to that of the medical and surgical consultants.

In the communications zone it is proposed to handle neuropsychiatric patients in three installations, viz.:

a. Neurosis Hospital. All neuropsychiatric patients evacuated from army who are considered salvageable for duty are sent to the neurosis hospital. This is a proposed new medical unit operating as close as possible to the army area and constituting the chief hospital for the treatment and triage of combat-incurred psychiatric cases at the communications zone level. It returns 60 to 80 percent of its patients to non-combat duty, the remainder being evacuated to the Zone of Interior. It does not treat patients expected to return to combat duty, since these are treated in more forward echelons. Also it does not treat psychotics and other seriously ill patients who are handled in general hospitals. This proposed unit has a patient capacity of 500; the staff includes approximately ten psychiatrists. Equipment is that of a tent hospital, similar to an evacuation hospital. This is so as to provide the mobility necessary to keep the hospital close to army area, and to avoid a hospital atmosphere; for example, patients wear fatigues rather than pajamas and sleep on cots rather than hospital beds. Neither of these objectives can be accomplished nor can the necessary centralization of triage be maintained by the conventional use of station and general hospitals or other existing facilities.

b. General Hospitals. Psychotics and other seriously ill neuropsychiatric patients evacuated from army are sent to general hospitals. The majority will be evacuated to the Zone of Interior. No change in T/O and E's is required.

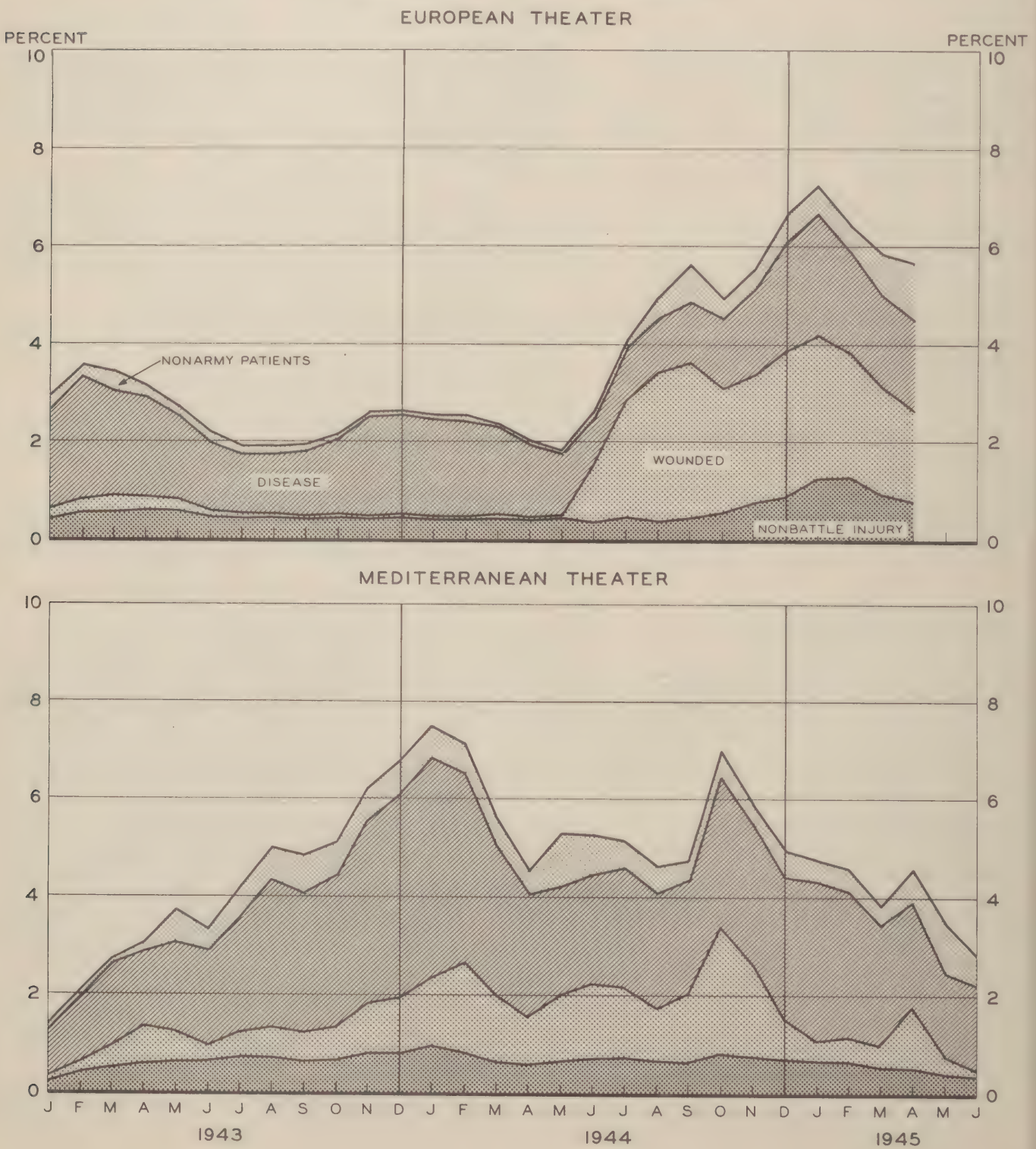
c. Station Hospitals. Neuropsychiatric cases arising in the communications zone are handled in local station hospitals according to present practice.

FUTURE NEED FOR HOSPITALIZATION IN THE PACIFIC

The future need for hospital beds in the Pacific cannot be accurately estimated, but the cumulative experience of the war to date provides some basis for establishing the probable range of need in the light of currently projected operations. As a first step it is useful to review the basic facts concerning the size of the hospital population in the major theaters. This is done graphically in the panels below and on the opposite page. These charts pertain to patients in both fixed and mobile beds, and distinguish between Army and non-Army patients, and among Army patients by type. With major assaults in prospect for the Asiatic mainland or the Islands of Japan, certain features of the experience of the European Theater may well be repeated, although its severe casualty rates may not be duplicated. The

ARMY AND NONARMY PATIENTS IN FIXED AND MOBILE HOSPITALS

AS PERCENTAGES OF THEATER STRENGTH



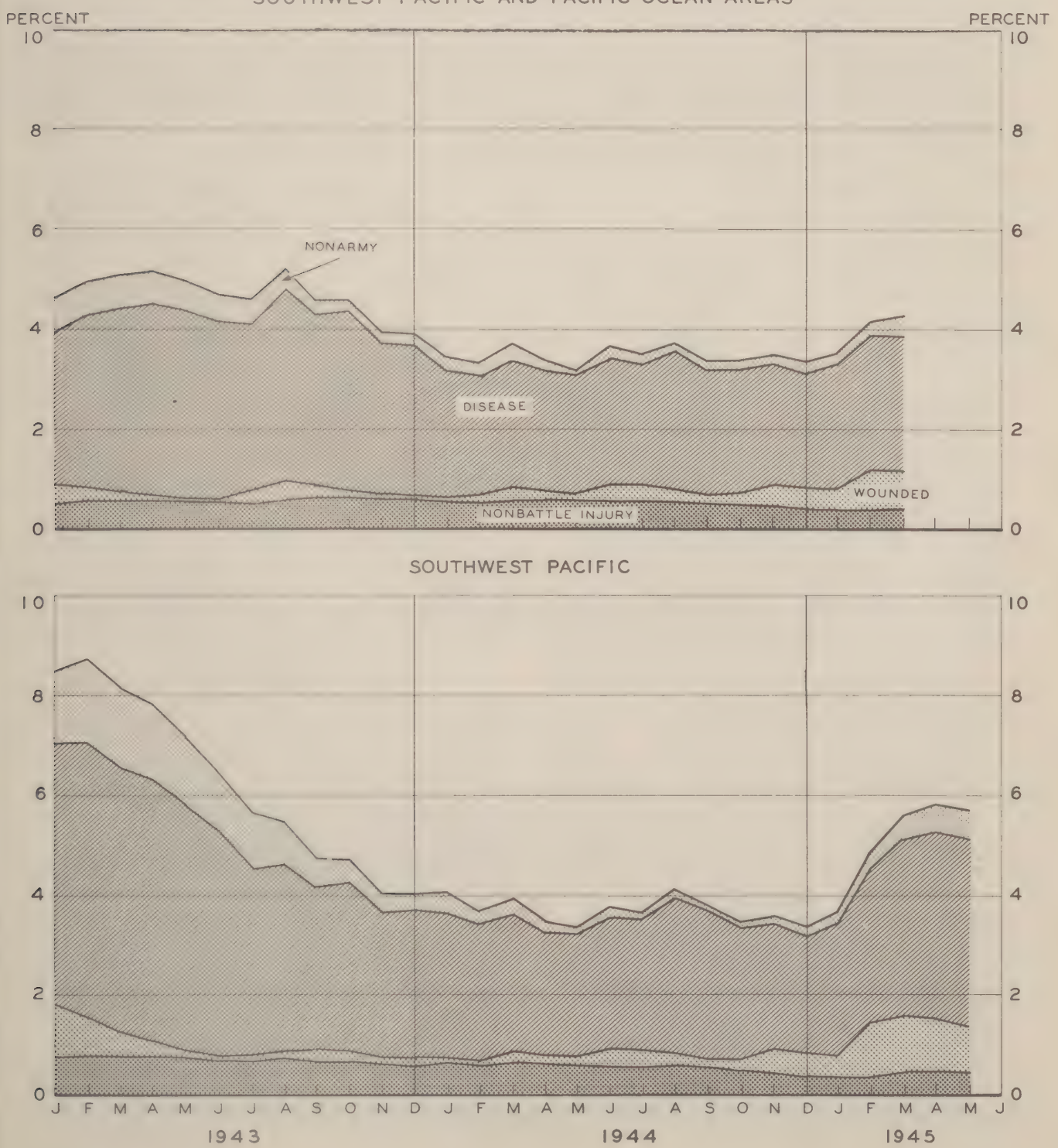
FUTURE NEED FOR HOSPITALIZATION IN THE PACIFIC (Continued)

chart for the Mediterranean Theater is also suggestive of the possible size of the future hospital population in the Pacific, perhaps even more so than is the Pacific experience itself. The Southwest Pacific curve for disease, in turn, is perhaps more representative of future conditions than is that for the total Pacific which is influenced in part by the favorable admission rates of the Pacific Ocean Areas. It will be seen that, during the intervals covered, the following peak loads fell upon the major theaters: 7.3 percent of strength in the European Theater; 7.5 percent in the Mediterranean Theater; 8.7 percent in the Southwest Pacific; and 5.2 percent in the entire Pacific area.

ARMY AND NONARMY PATIENTS IN FIXED AND MOBILE HOSPITALS

AS PERCENTAGES OF THEATER STRENGTH

SOUTHWEST PACIFIC AND PACIFIC OCEAN AREAS

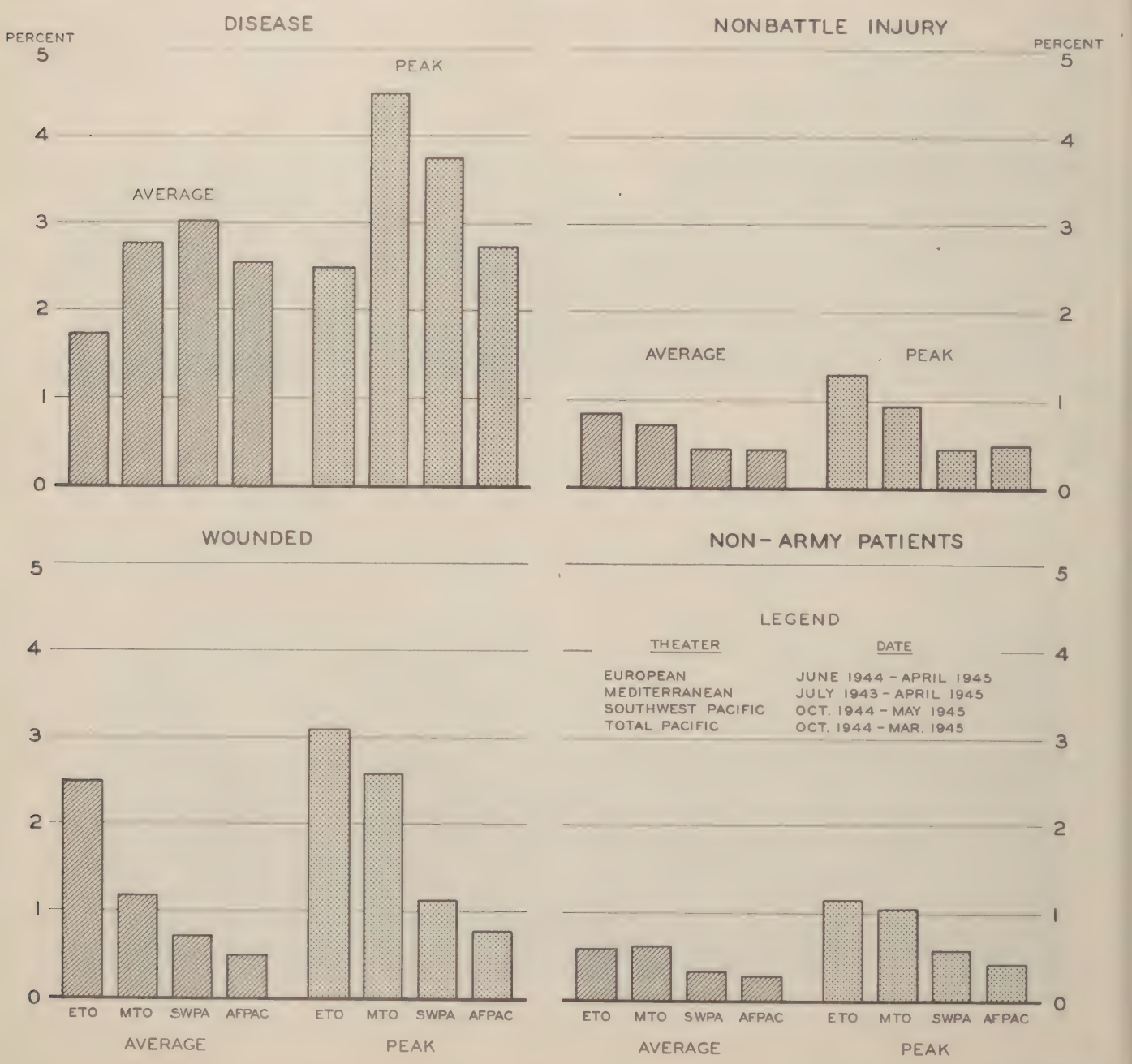


FUTURE NEED FOR HOSPITALIZATION IN THE PACIFIC (Continued)

From the standpoint of estimating the future hospital population in the entire Pacific it is well to summarize the detailed curves, as has been done in the charts below, which give the average and the peak values for each major component of the hospital population for pertinent intervals of the curves below and on the previous page. The intervals which have been chosen are as follows: June 1944 - April 1945 for the European Theater; July 1943 - April 1945 for the Mediterranean Theater; and October 1944 - May 1945 for both the Southwest Pacific Area and the entire Pacific. The average values for Army patients hospitalized for disease in these theaters have ranged from 1.7 to 3.0 percent of strength, the peak values from 2.5 to 4.5 percent of strength. In view of the magnitude of Pacific disease admission rates in the past, in view of their present trends, and in view of the anticipated movement westward from Central Pacific base areas, a value of 3.0 to 3.5 may well be expected in the future for disease alone. For injury the average values have ranged from 0.4 to 0.8, the maximum values from 0.5 to 1.3 percent of strength. Any forecast of this component of the hospital population in the future will depend upon the assumption made with respect to exposure to cold injury. On the assumption that cold injury will be of real but not major importance, values of 0.6 to 0.8 may be forecast for planning purposes. Estimates for the wounded are, of course, much more hazardous. The Southwest Pacific has thus far had an aver-

AVERAGE AND PEAK VALUES FOR COMPONENTS OF HOSPITAL LOAD, MAJOR THEATERS

PATIENTS AS A PERCENT OF STRENGTH

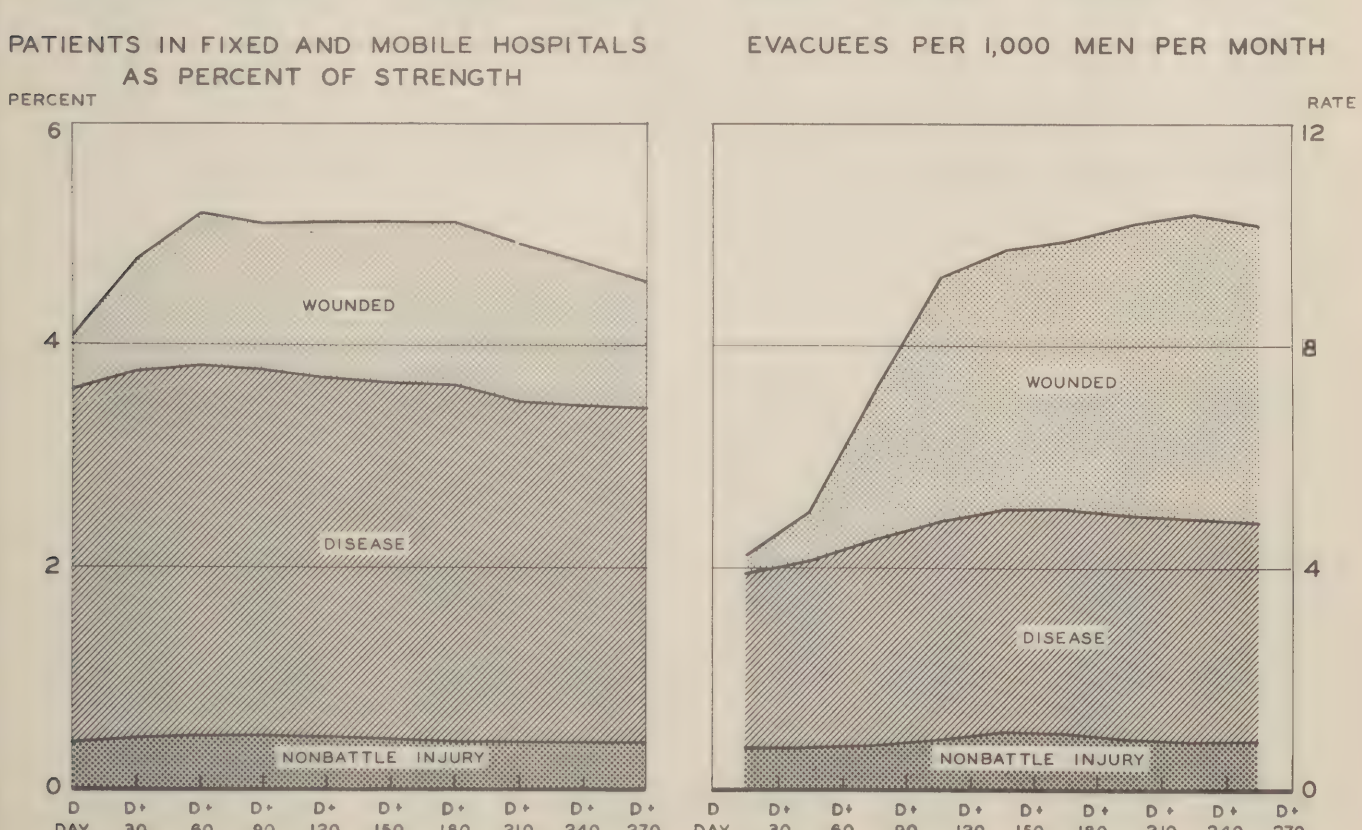


FUTURE NEED FOR HOSPITALIZATION IN THE PACIFIC (Continued)

age of 0.7 and a maximum of 1.1 percent of strength hospitalized for wounds received in action, but the Mediterranean percentages are 1.2 and 2.6 for average and peak respectively, and the corresponding European values are 2.5 and 3.1 percent of strength. In the light of these figures, a major assault upon well-defended positions would imply a need for 1.5 to 2.0 percent of strength for this purpose, with a possibility of isolated values considerably higher than 2.0 percent. A fourth element of the hospital population consists of non-Army patients, which have averaged between 0.3 and 0.6 percent of Army strength and have reached peak values between 0.4 and 1.2 percent during the intervals under scrutiny. For the entire Pacific in the future this value will depend in large part upon the extent of Marine Corps, Navy, and civilian casualties. In view of the amphibious nature of any future assaults, and the densely populated nature of all probable target areas, a reasonably high allowance for non-Army patients should be made, perhaps 0.6 to 1.0 percent of Army strength.

When the above rough estimates are combined they total 5.1 to 6.3 for Army patients and 5.7 to 7.3 for all patients in both fixed and mobile hospitals. With a current load of only 4.0 to 4.5 percent of strength, the build-up of the hospital population is naturally a matter of interest. If forthcoming operations bear any resemblance to those against the European Continent in the summer of 1944, the hospital population of the Pacific may increase in some such fashion as in the first chart below. It must be understood that this is but one of many possible forecasts, and that it is based on statistical analysis only. Estimates can be made with a much higher degree of probability, of course, when based on suitable intelligence information covering the size and composition of the defending force, the terrain, and the like. The hospital population forecast refers to Army patients only, whether in mobile or in fixed beds. It should be mentioned that the values for wounded are as low as they appear in the chart partly because it has seemed fair to presuppose a much more efficient schedule of evacuation than was employed by the European theaters. The schedule utilized in preparing the estimates is that presented in HEALTH for December 1944 and there termed a conservative optimum schedule. Failure to achieve this goal, of course, could materially increase the number of wounded in hospital. For this reason it is of interest to record for what they may be worth the scheduled rates of evacuation implicit in the hospital forecast. This has been done in the second panel of the chart below, where the total volume is separated into evacuees for disease, injury, and battle casualty.

PROJECTION OF ARMY HOSPITAL POPULATION AND ARMY EVACUEES TO THE UNITED STATES — PACIFIC THEATER, D-DAY TO D + 270

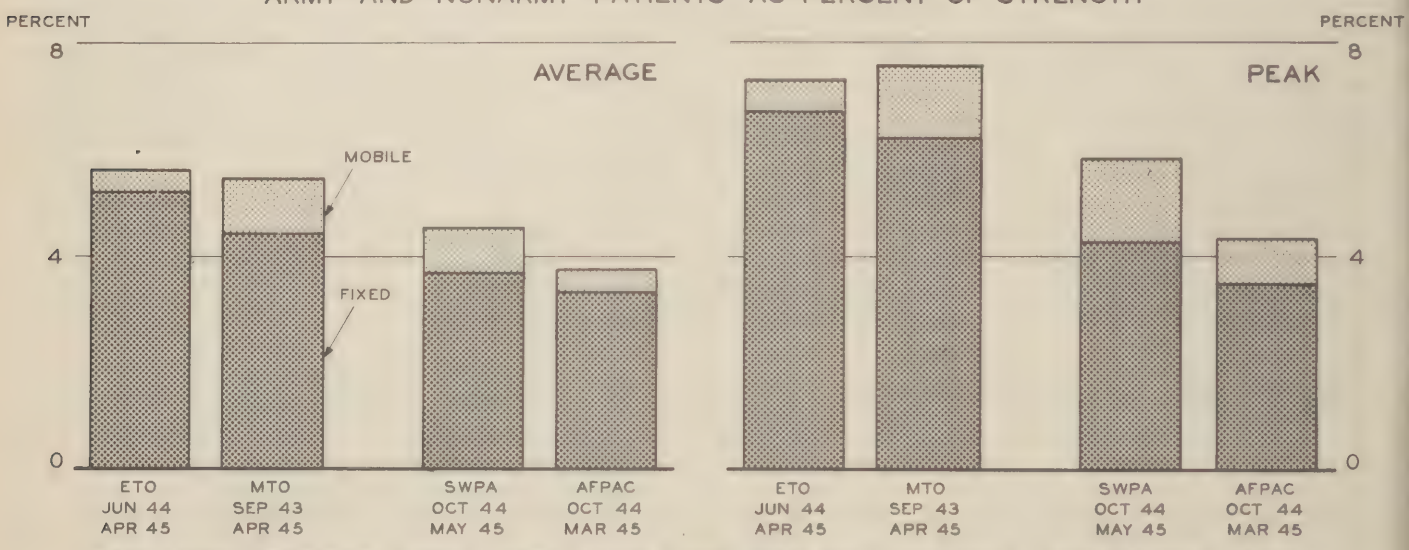


FUTURE NEED FOR HOSPITALIZATION IN THE PACIFIC (Continued)

If such estimates as the foregoing are to be utilized for the specific purpose of planning fixed hospital facilities, some allowance must be made for the fact that, under conditions of tactical activity, a certain proportion of patients will be in mobile beds. The top panels below summarize the experience of the major theaters in this regard during the time-intervals under discussion. From eight to 18 percent of all hospital patients, on the average, have been in mobile units, while at the time of peak occupancy this value has ranged from eight to 27 percent. In view of these facts, and in view of the increasing tendency to classify field hospitals as mobile units, it may be safely assumed that about 20 percent of the future Pacific hospital population can be cared for in mobile beds under conditions of tactical activity when the hospital population is large. Application of this estimate to the forecasts on page 24 yields the breakdown shown in the lower left hand panel for the low and high forecasts. The lower right hand panel converts the fixed bed population of 4.6 to 5.8 percent into a range of requirements for fixed beds, first on the assumption of 10 percent theater dispersion with 20 percent hospital dispersion (see pages 30 to 31 for discussion of these concepts), and second on the assumption of 30 percent theater dispersion coupled with 20 percent hospital dispersion. Theater dispersion in the Southwest Pacific has been more on the order of 30 percent previously, but it hardly seems practical to plan on such a high value.

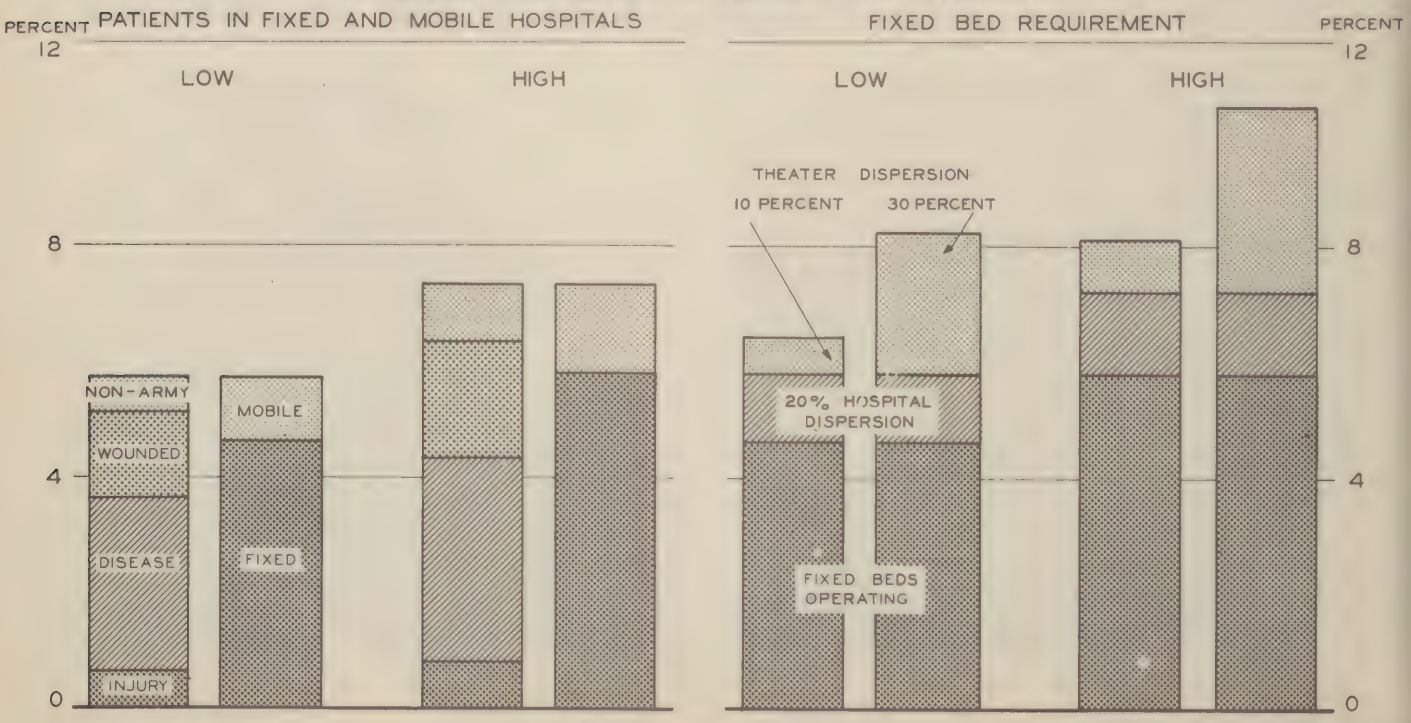
AVERAGE AND PEAK LOADS IN FIXED AND MOBILE HOSPITALS OVERSEAS

ARMY AND NONARMY PATIENTS AS PERCENT OF STRENGTH



ESTIMATED PATIENT POPULATION AND FIXED BED REQUIREMENT FOR PACIFIC AREA

PATIENTS AND BEDS AS PERCENT OF STRENGTH



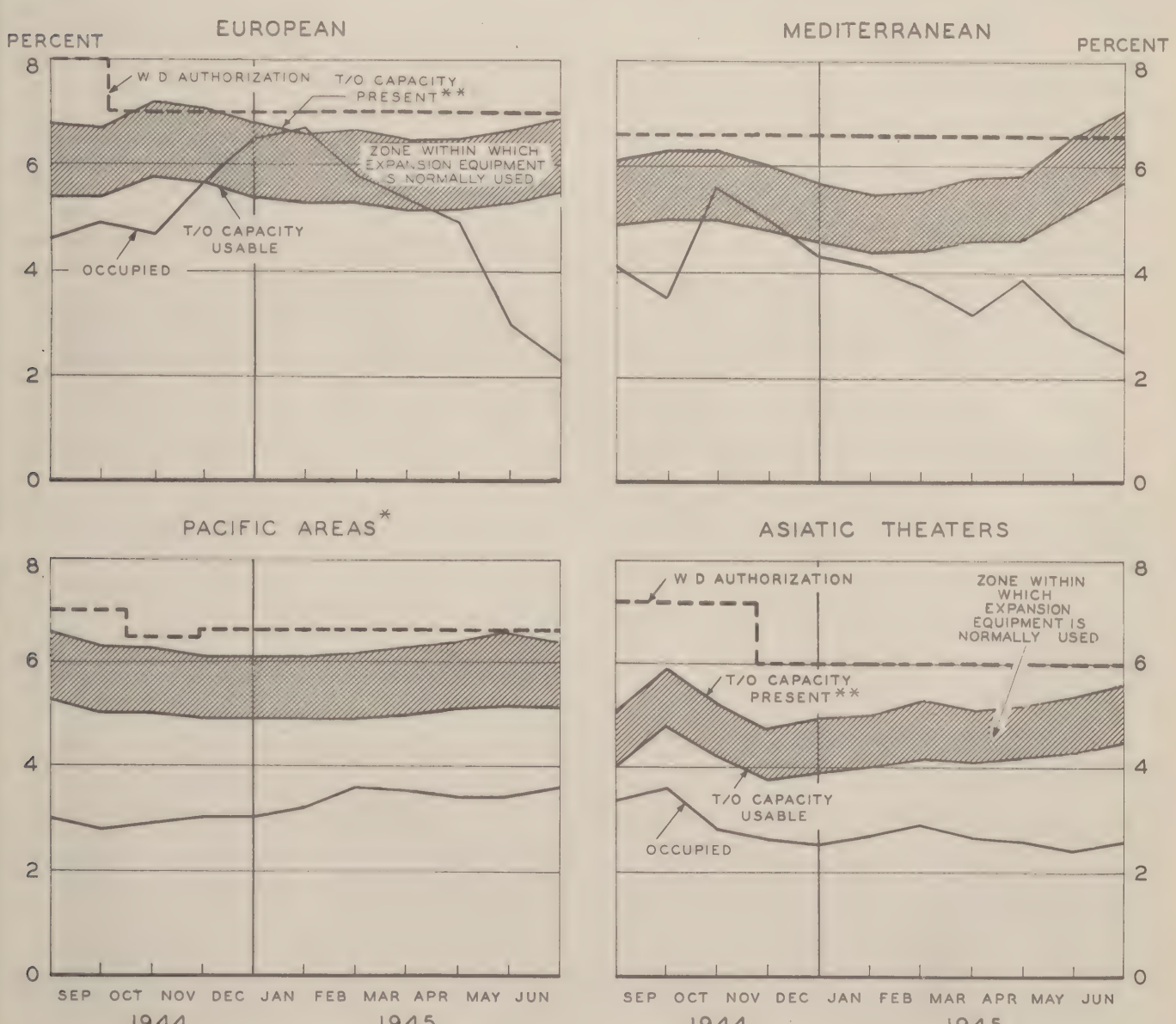
HOSPITALIZATION OVERSEAS

At the end of June fixed bed capacity balanced overseas theater requirements quite closely except for a numerically small shortage in the China Theater, but the large numbers of beds available in Europe were, of course, well in excess of actual requirements. Recent War Department action has reduced the fixed bed authorization of the European Theater from 7.0 to 4.4 percent of strength effective 1 August. Enforced idleness of substantial capacity because of changes in location resulted in the Western Pacific having only 68 percent of its available capacity actually in operation at the end of June. In consequence, fixed hospitals there remained relatively crowded during June. Mobile hospitals in this area were somewhat less crowded at the end of June than they were a month earlier.

Recent changes in the availability and occupancy of fixed beds in the major theaters are traced in the chart below. It must be borne in mind that each theater has at any time some portion of its capacity out of operation because of changes in location, and that the charts do not reflect this fact because only recently have satisfactory quantitative data become available on this point (see table on page 26). The European Theater had only 64,000 fixed beds occupied, or 2.3 percent of strength, having almost eliminated its population of wounded by the end of June. At that time there were only 5,000 wounded in hospital in comparison with 85,000 at the end of January. By 13 July the census of wounded had declined to

FIXED HOSPITALIZATION OVERSEAS THEATERS

BEDS AS PERCENT OF STRENGTH



* Southwest Pacific and Pacific Ocean Areas. Pacific Ocean Areas count for 27 April is incomplete.
** Exceeds T/O capacity of units set up by capacity of units staging, etc.

HOSPITALIZATION OVERSEAS (Continued)

2,000. The table below provides the basic data on fixed hospitalization at the end of June. The strengths used there and in the corresponding table for nonfixed beds include all personnel assigned to the various commands with an adjustment for those attached unassigned. Beds occupied by Chinese patients are included in the occupancy figures for the Asiatic theaters, and the strength shown for the India-Burma Theater includes 70,000 Chinese. The Army of Occupation in Europe had 5,700 fixed beds in operation at the end of June, 75 percent of which were occupied. The projected facilities total 19,150 fixed beds, according to the Redeployment Forecast.

FIXED BEDS AVAILABLE AND OCCUPIED
Number of Beds, 30 June 1945

Theater	W. D. Authorization	T/O Present		Operating		Occupied d/
		Number c/	Percent of Authorization	Number d/	Percent of T/O Present	
ALL THEATERS	338,125	332,475	98.3	g/	g/	137,546
American a/	4,437	4,600	103.7	5,105	111.0	2,919
European	191,626	189,350	98.8	104,450	55.2	64,137
Mediterranean	26,003	28,000	107.7	19,400	69.3	9,848
Pacific						
Total	94,880	91,650	96.6	g/	g/	51,842
Middle Pacific	32,984	35,150	106.6	g/	g/	16,779
Western Pacific	61,896	56,500	91.3	38,650	68.4	35,063
Asiatic Theaters						
Total	18,078	16,825	93.1	15,575	92.6	7,938
China	3,471	2,125	61.2	1,975	92.9	1,508
India-Burma	14,607	14,700	100.6	13,600	92.5	6,430
Africa-Middle East b/	3,101	2,050	66.1	1,940	94.6	862

Beds Available as Percent of Strength and Percentage Occupied

Theater	Strength (Thousands) e/	W. D. Authorization	T/O Present		Beds Occupied as		
			Total c/	Usable f/	Percent of Strength	Percent of T/O Present	Percent of T/O Operating
ALL THEATERS	5,067	6.7	6.6	5.3	2.7	41.4	g/
American a/	148	3.0	3.1	2.5	2.0	63.5	57.2
European	2,738	7.0	6.9	5.5	2.3	33.9	61.4
Mediterranean	394	6.6	7.1	5.7	2.5	35.2	50.8
Pacific							
Total	1,434	6.6	6.4	5.1	3.6	56.6	g/
Middle Pacific	550	6.0	6.4	5.1	3.1	47.7	g/
Western Pacific	884	7.0	6.4	5.1	4.0	62.1	90.7
Asiatic Theaters							
Total	301	6.0	5.6	4.5	2.6	47.2	51.0
China	58	6.0	3.7	3.0	2.6	71.0	76.4
India-Burma	243	6.0	6.0	4.8	2.6	43.7	47.3
Africa-Middle East b/	52	6.0	4.0	3.2	1.7	42.0	44.4

a/ Includes Alaskan Department and excludes the Northwest Service Command and Eastern and Central Canada.
b/ Includes Persian Gulf Command.
c/ T.L.O.S. dated 1 July 1945.
d/ Reported by theaters telegraphically for 29 June 1945.
e/ Geographic strength by theater. Strength for India-Burma Theater includes 70,000 Chinese.
f/ Eighty percent of total T/O present.
g/ Not available.

HOSPITALIZATION OVERSEAS (Continued)

There was very little change in the number of mobile beds available in the Pacific during June, but it should be doubled before the end of the year. About 9,000 mobile beds were withdrawn from the census in the European Theater during June, largely for redeployment to the Pacific, so that there should be a large increase in the Pacific total by the end of July. The census of patients in mobile beds in the European Theater declined from 21,000 on 1 June to 12,000 on 30 June. Further details appear in the table below.

NONFIXED BEDS AVAILABLE AND OCCUPIED
Overseas Theaters, 30 June 1945

Theater	T/O Present		Total Operating		Total Occupied			
	Number b/	Percent of Strength	Number c/	Percent of T/O Present	Number c/	Percent of T/O Present	Percent of T/O Operating	Percent of Strength
ALL THEATERS a/	77,325	1.5	d/	d/	26,555	34.3	d/	0.5
European	49,175	1.8	33,150	67.4	12,149	24.7	36.6	0.4
Mediterranean	8,800	2.2	6,450	73.3	956	10.9	14.8	0.2
Pacific								
Total	14,375	1.0	d/	d/	11,193	77.9	d/	0.8
Middle Pacific	3,625	0.7	d/	d/	2,836	78.2	d/	0.5
Western Pacific	10,750	1.2	7,800	72.6	8,357	77.7	107.1	0.9
Asiatic Theaters								
Total	4,975	1.7	1,925	38.7	2,257	45.4	117.2	0.7
China	1,350	2.3	375	27.8	983	72.8	262.1	1.7
India-Burma	3,625	1.5	1,550	42.8	1,274	35.1	82.2	0.5

PATIENTS REMAINING IN NUMBERED FIXED AND NONFIXED HOSPITALS
Overseas Theaters, 30 June 1945

Theater	Total Patients Remaining	Percent Remaining in		Percent Who Were		
		Fixed Units	Nonfixed Units	Army Patients	PW's	Others e/
ALL THEATERS	164,101	83.8	16.2	d/	d/	d/
American f/	2,919	100.0	-	91.7	-	8.3
European	76,286	84.1	15.9	83.7	10.6	5.7
Mediterranean	10,804	91.2	8.8	83.1	11.3	5.6
Pacific						
Total	63,035	82.2	17.8	d/	d/	d/
Middle Pacific	19,615	85.5	14.5	d/	d/	d/
Western Pacific	43,420	80.8	19.2	90.6	0.5	8.8
Asiatic Theaters						
Total	10,195	77.9	22.1	66.8	0.0	33.2
China	2,491	60.5	39.5	43.8	-	56.2
India-Burma	7,704	83.5	16.5	74.2	0.1	25.7
Africa-Middle East g/	862	100.0	-	88.2	-	11.8

a/ Includes American and Africa-Middle East Theaters which have no mobile beds.
b/ T.L.O.S. dated 1 July 1945.
c/ Reported by theaters telegraphically for 29 June 1945.
d/ Not available.
e/ Allies, neutrals, partisans, civilians.
f/ Includes Alaskan Department and excludes Northwest Service Command and Eastern and Central Canada.
g/ Includes Persian Gulf Command.

HOSPITALIZATION OVERSEAS (Continued)

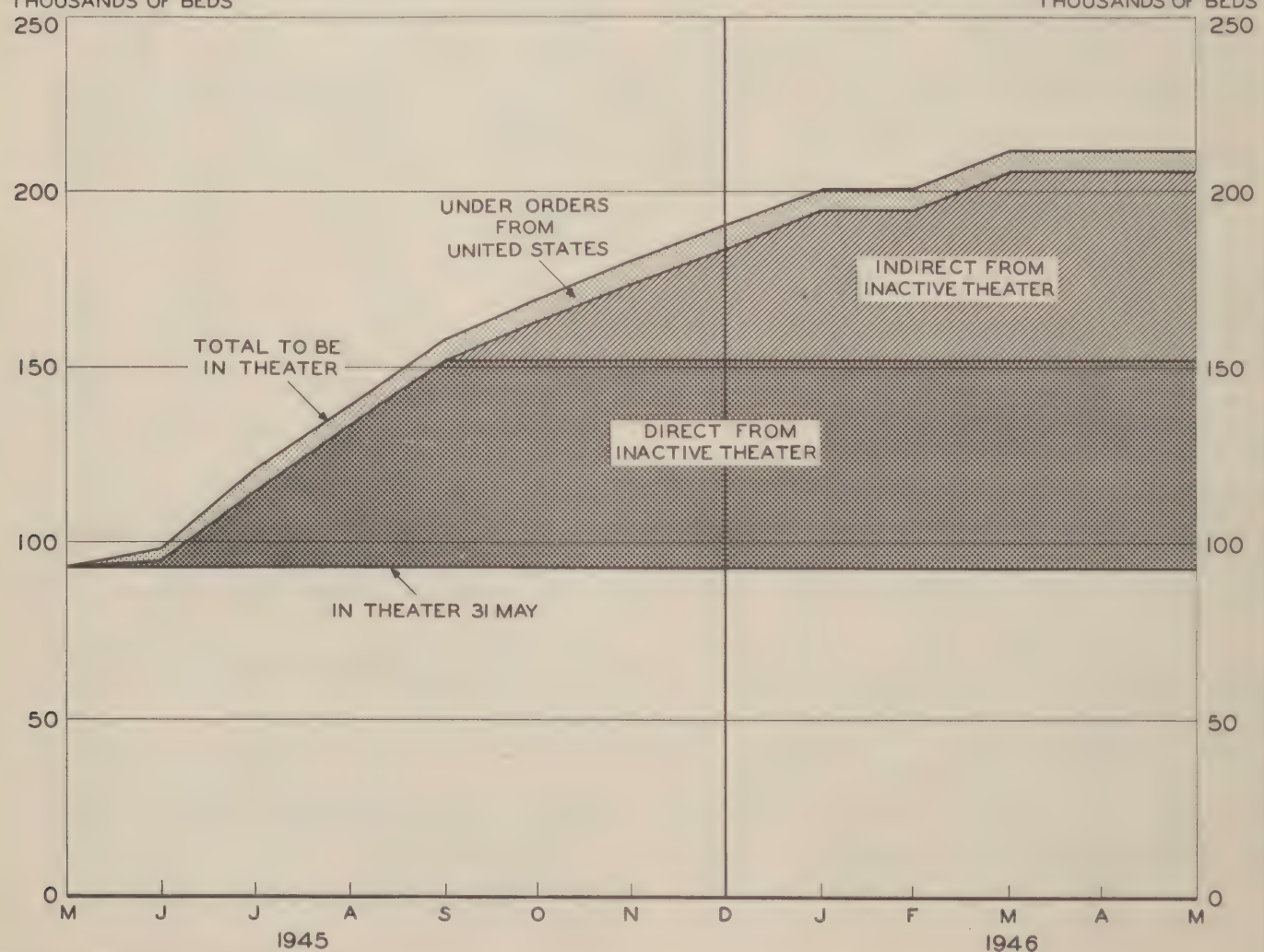
Continued scrutiny of the composition of the population in Army hospitals overseas is warranted by the fact that a substantial portion of the available bed space is actually used by non-Army patients. Although reports for the Middle Pacific are not available, it is plain that well over 10 percent of all patients in hospital overseas were non-Army patients at the end of June. The highest percentages are those for the Asiatic theaters, where there is, however, a specific authorization covering units serving Chinese troops. At the end of June the European Theater had 15 non-T/O units for PW patients with a rated capacity of 14,250 beds and a population of more than 14,000 patients. However, 8,100 PW patients remained in Army T/O units, 59 percent of them being in fixed hospitals. Further expansion of the non-T/O units staffed by protected personnel is no longer contemplated. The lower table on the previous page summarizes available data on non-Army patients at the end of June, with a breakdown of all patients according to the percentage remaining in fixed and in mobile units.

Redeployment of Fixed Hospitals to the Pacific

The rapid redeployment of medical means from Europe to the Pacific is perhaps the greatest single problem confronting the Medical Department. In general it is believed that redeployment schedules for fixed units are being met, but precise dates of arrival in the Pacific are not known for directly redeployed units. It may be noted that, of the 22,500 fixed beds scheduled to arrive in the Z/I during June and July for indirect redeployment, only 84 percent had done so by 31 July.

At the end of May there were in the Pacific 93,000 T/O fixed bed units, a number which is scheduled to increase to a maximum of 211,000 by the end of March 1946. According

REDEPLOYMENT OF FIXED HOSPITAL UNITS*
PLANNED INCREASE IN CAPACITY IN THE PACIFIC



* Field, Station, and General Hospitals

HOSPITALIZATION OVERSEAS (Continued)

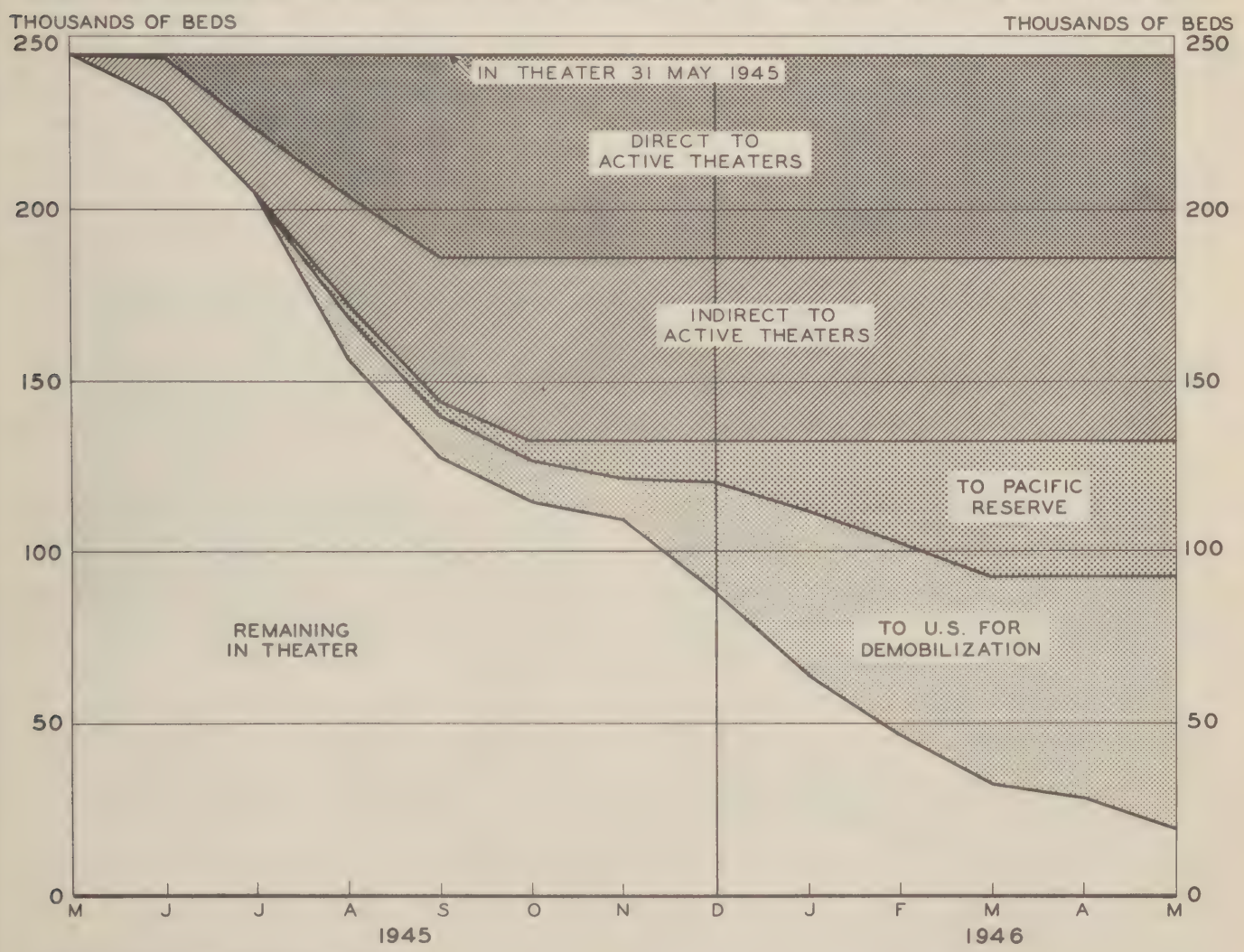
to the third edition of the Redeployment Forecast, which is summarized in the left-hand panel below, 28 percent of the total will consist of directly redeployed units, 25 percent of units indirectly redeployed through the Z/I, three percent of other units shipped from the Z/I, and 44 percent of the units present in the Pacific on 31 May 1945. Directly redeployed units are scheduled to arrive from June through September, while units being redeployed indirectly are to arrive from October 1945 through March 1946.

The corresponding process in the European and Mediterranean theaters is shown graphically in the righthand panel. From a peak of 245,000 T/O fixed bed units at the end of May, the fixed bed capacity of the European and Mediterranean Theaters is destined to decline to 19,150 by the end of March 1946. The schedule calls for 24 percent of the capacity present on 31 May to be redeployed directly to the Pacific, 22 percent to be redeployed indirectly to that area, 16 percent to go to Pacific Area Reserve, 30 percent to be returned to the Z/I for demobilization, and eight percent to remain in the theater. All the units redeployed to active theaters from Europe will go to the Pacific, and all but 6,000 beds of the Pacific build-up will represent the capacity of these units.

Projections in the Troop List for Operations and Supply indicate that the stated requirements of each theater for fixed beds will be fully met throughout the rest of the year, except that information is not yet available for the European Theaters. However, it is to be noted that the Asiatic requirements are on the order of 4.3 to 4.7 percent of strength, whereas the WD authorization for fixed beds is 6.0 percent for these theaters.

REDEPLOYMENT OF T/O FIXED HOSPITAL UNITS

PLANNED DECREASE IN CAPACITY IN THE EUROPEAN AND MEDITERRANEAN THEATERS



* Field, Station, and General Hospitals.

THEATER DISPERSION OF FIXED HOSPITAL BEDS

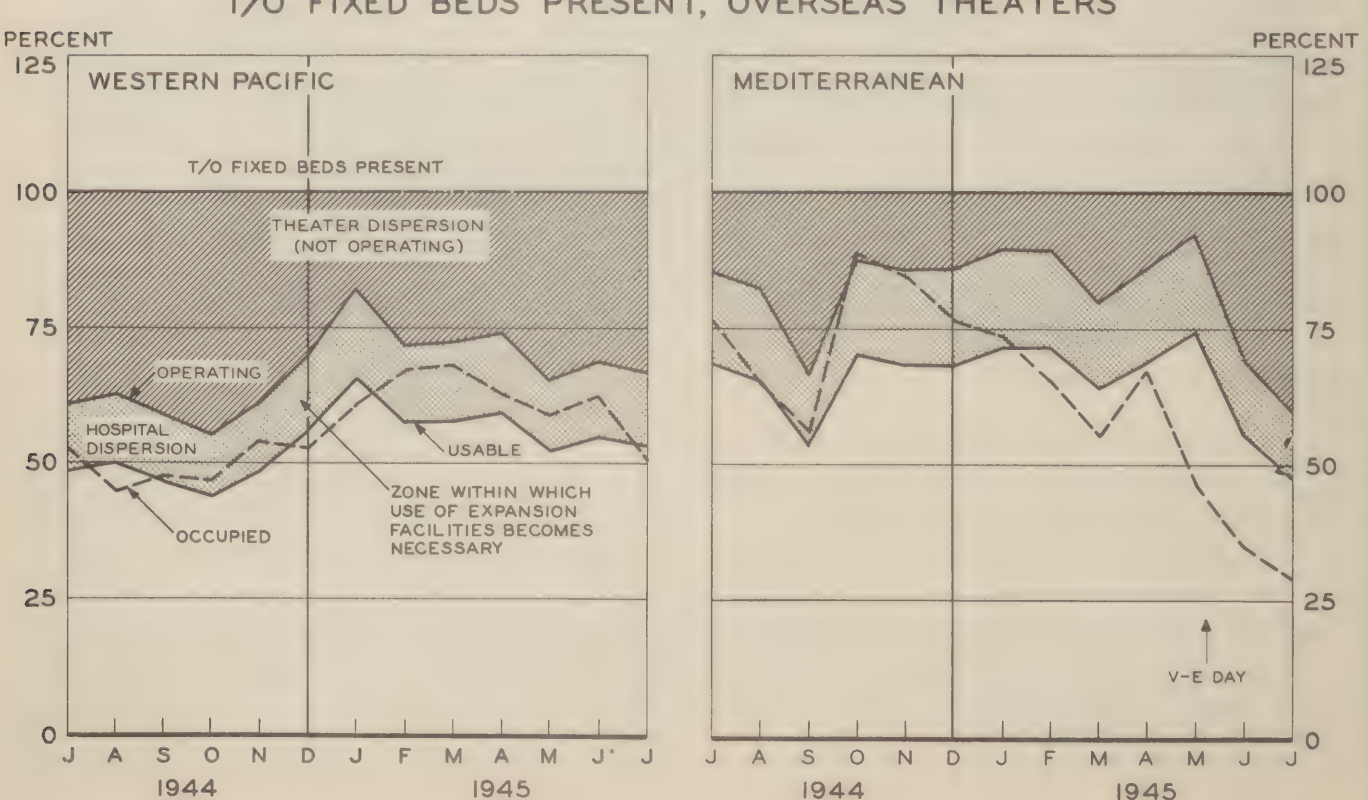
It has been customary in HEALTH to discount fixed bed capacity by some factor, generally 20 percent, to allow for the fact that, because of the importance of maintaining specialized wards, the average hospital begins to show signs of crowding when the number of bed patients exceeds 80 percent of its T/O capacity. For this reason 80 percent of the T/O capacity of fixed hospitals overseas has been called usable. This does not, of course, mean that hospitals will not accept patients beyond this point, but since T/O's are designed for normal loads, long-continued overcrowding implies a burden beyond the capacity of the hospital to carry efficiently, however manageable it may be for shorter periods.

In addition to the above type of dispersion, called hospital dispersion, a large active theater will at any time lose a certain amount of bed capacity because units present in the theater are out of operation. This type of loss is known as theater dispersion and varies widely among theaters and with the character of operations. Although this concept has been presented in HEALTH previously (see issue for October 1944, pp. 29-30) it has not been possible routinely to measure hospital dispersion; moreover, unlike hospital dispersion, theater dispersion can be minimized by command action to provide better transportation, better engineering support in construction, better timing of changes in location, and the like. From this narrower point of view, in other words, no theater should regard its past loss through theater dispersion as inevitable and irreducible, but rather should be alert to means of minimizing the loss.

The accompanying charts record the information available to The Surgeon General on the extent of theater dispersion in three major theaters. During the past year the proportion of fixed T/O bed units out of operation has averaged 34 percent in the Western Pacific, with a maximum of 45 percent in the early phases of the Leyte operation. In the Mediterranean, on the other hand, the loss exceeded 20 percent only once between January 1944 and April 1945, and that was at the time Southern France was invaded by the Seventh Army. The average for this period is 15 percent. In the European Theater the presence of a large number of units which would be needed only after the hospital population built up after D-Day, the necessity for moving units to the Continent, and the continued arrival of new units initially caused a large amount of theater dispersion which was gradually diminished from 35 percent at the end of July 1944 to only five percent at the end of May 1945. Subsequently, of course, large numbers of units have been taken out of operation preparatory to redeployment.

In the Western Pacific it has proved difficult to reduce the loss of capacity

FIXED BEDS OPERATING, USABLE, AND OCCUPIED AS PERCENTAGES OF T/O FIXED BEDS PRESENT, OVERSEAS THEATERS



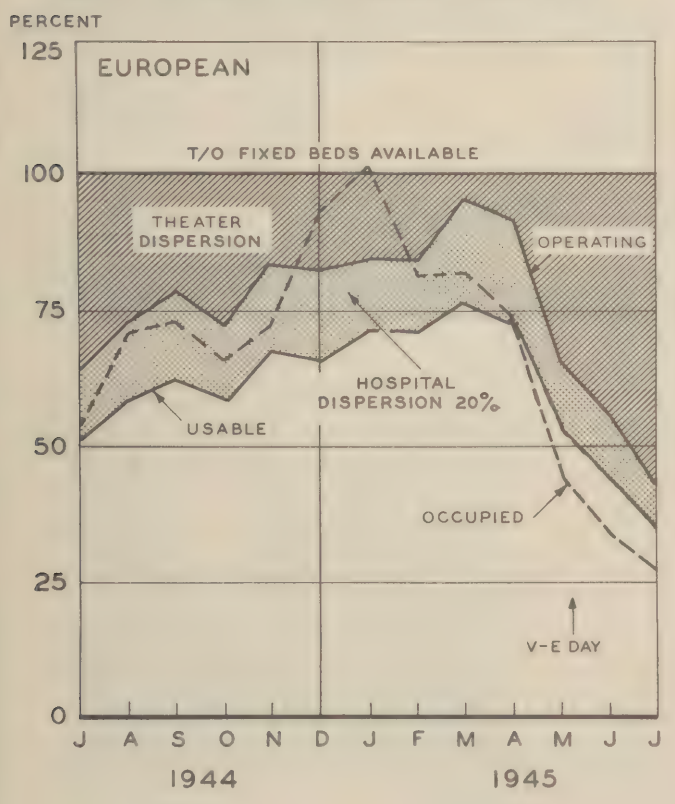
THEATER DISPERSION OF FIXED HOSPITAL BEDS (Continued)

through theater dispersion. Great distances, shortage of shipping, and inadequate engineering assistance have conspired to immobilize what may appear to be an excessive number of beds. In view of the probable nature of any future activity in this area it would appear essential to plan on theater dispersion in providing bed capacity to the theater. If sufficient means cannot be provided the theater with which to reduce the loss, up to 30 percent theater dispersion may have to be provided. This means, for example, that if provision for an average fixed bed population of 6.0 percent of strength were to be made, a bed capacity of 8.6 percent would have to be provided even without any allowance for hospital dispersion.

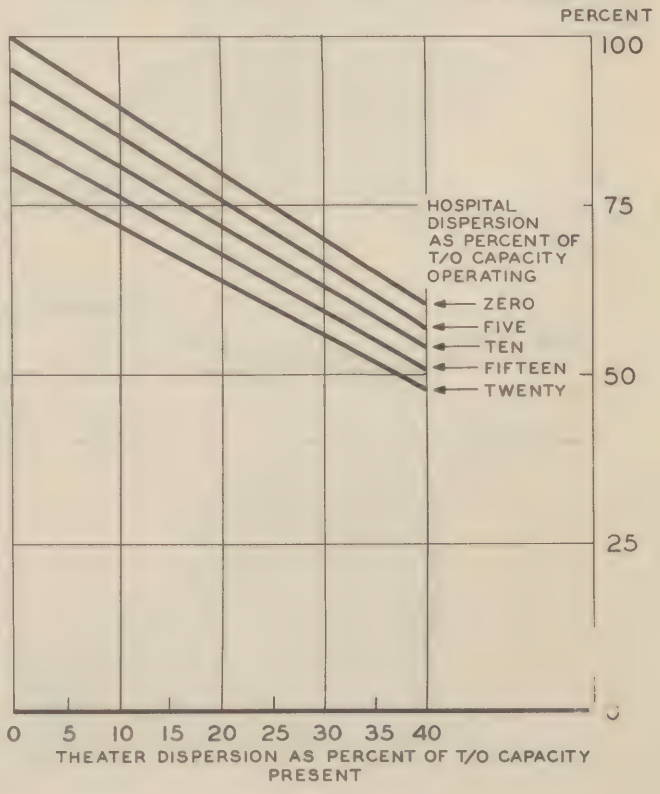
When both hospital and theater dispersion are taken into account in order to determine the degree of crowding more precisely, as in the accompanying charts, it is evident that the situation in both the European and Mediterranean Theaters has at times been much more difficult than in the Western Pacific for the period of record. Operating somewhat to offset the disadvantage, however, is the fact that the two European theaters have been better able to augment operating hospitals with the personnel of non-operating hospitals than has the Western Pacific, hampered by distance and geography.

The two types of dispersion are combined graphically in the chart below to portray the magnitude of the losses involved. Although hospital dispersion may be ignored in the short run, it must be taken into account in any long-range plan if medical services are not to deteriorate through overextension. The chart shows, for example, that a 20 percent theater dispersion coupled with a 20 percent hospital dispersion yields a working balance of 64 percent of the T/O capacity for any long period. The balance is not 60 percent because the hospital dispersion is applied to the 80 percent actually in operation, not to the entire capacity of all units present in the theater. Although these lines portray the general position of a theater on the basis of the assumptions stated, they have no meaning for individual hospitals which may be more or less crowded at any time because of many other factors.

FIXED BEDS OPERATING, USABLE, AND OCCUPIED AS PERCENTAGE OF T/O FIXED BEDS PRESENT, OVERSEAS THEATERS



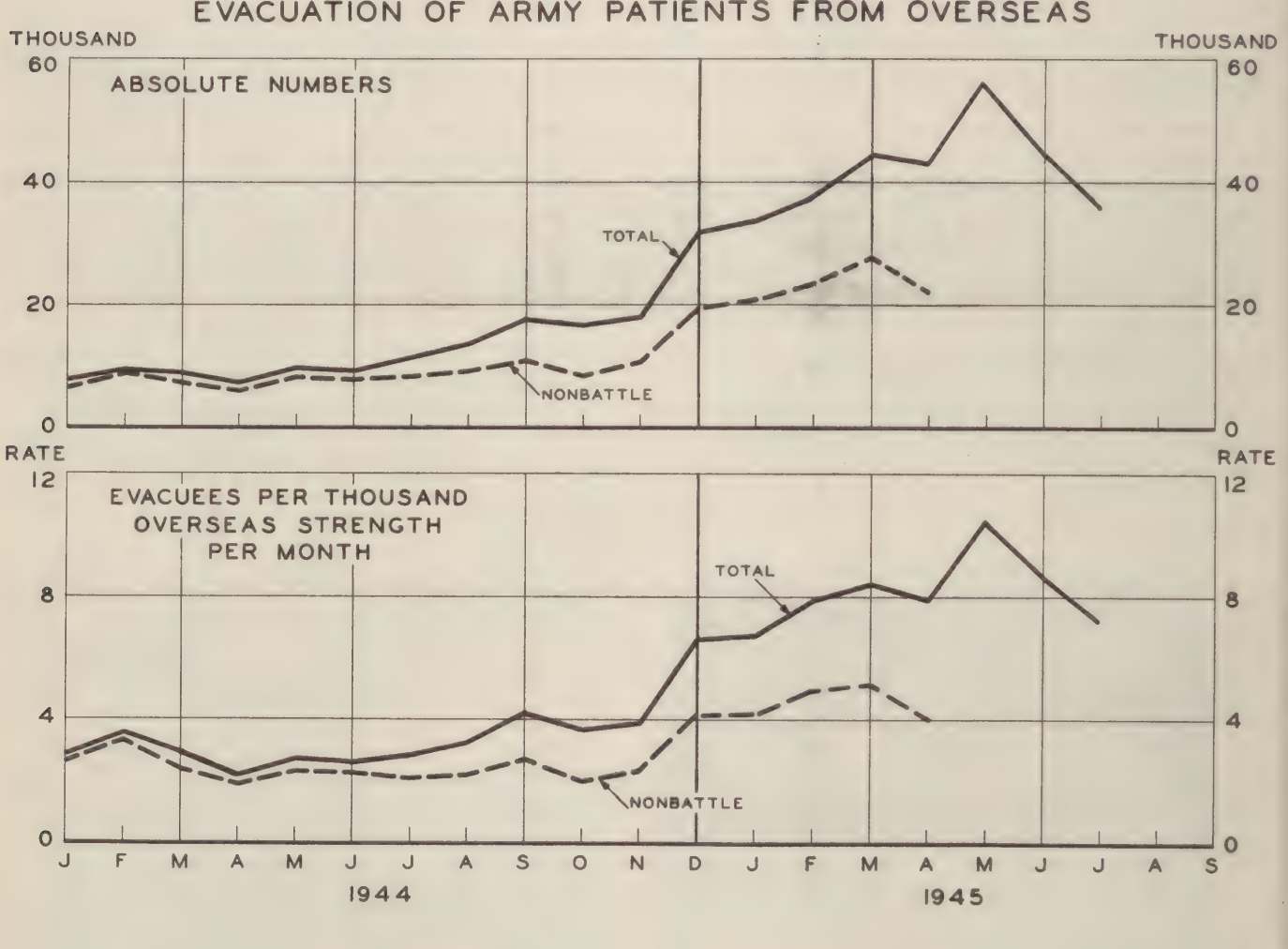
PERCENT OF T/O CAPACITY WHICH WOULD BE USABLE UNDER VARIOUS COMBINATIONS OF THEATER AND HOSPITAL DISPERSION



TREND OF EVACUATION FROM OVERSEAS

During July, Army patients evacuated to the Z/I from overseas numbered about 35,000, some 9,000 fewer than during June, and about 20,000 below the May peak. The entire decline took place in the water lift, the volume of air evacuation (Army plus non-Army patients) having increased by about 1,000. The charts below trace the monthly course of evacuation since January 1944 in both absolute and relative form. The solid line represents all patients, the dashed line only those evacuated for nonbattle causes. The separation of evacuees by cause is available only through April.

The total volume for July includes more than 20,000 from the European Theater, almost 7,000 from the Western Pacific, and 5,000 from the Middle Pacific. The largest reduction occured in the number of patients received from the European Theater, being 9,000 below the June figure and 17,000 below the May peak. Smaller reductions occurred in the number of patients received from both the Middle Pacific and the Mediterranean areas. A slight increase was recorded in the number of evacuees received from the Western Pacific.



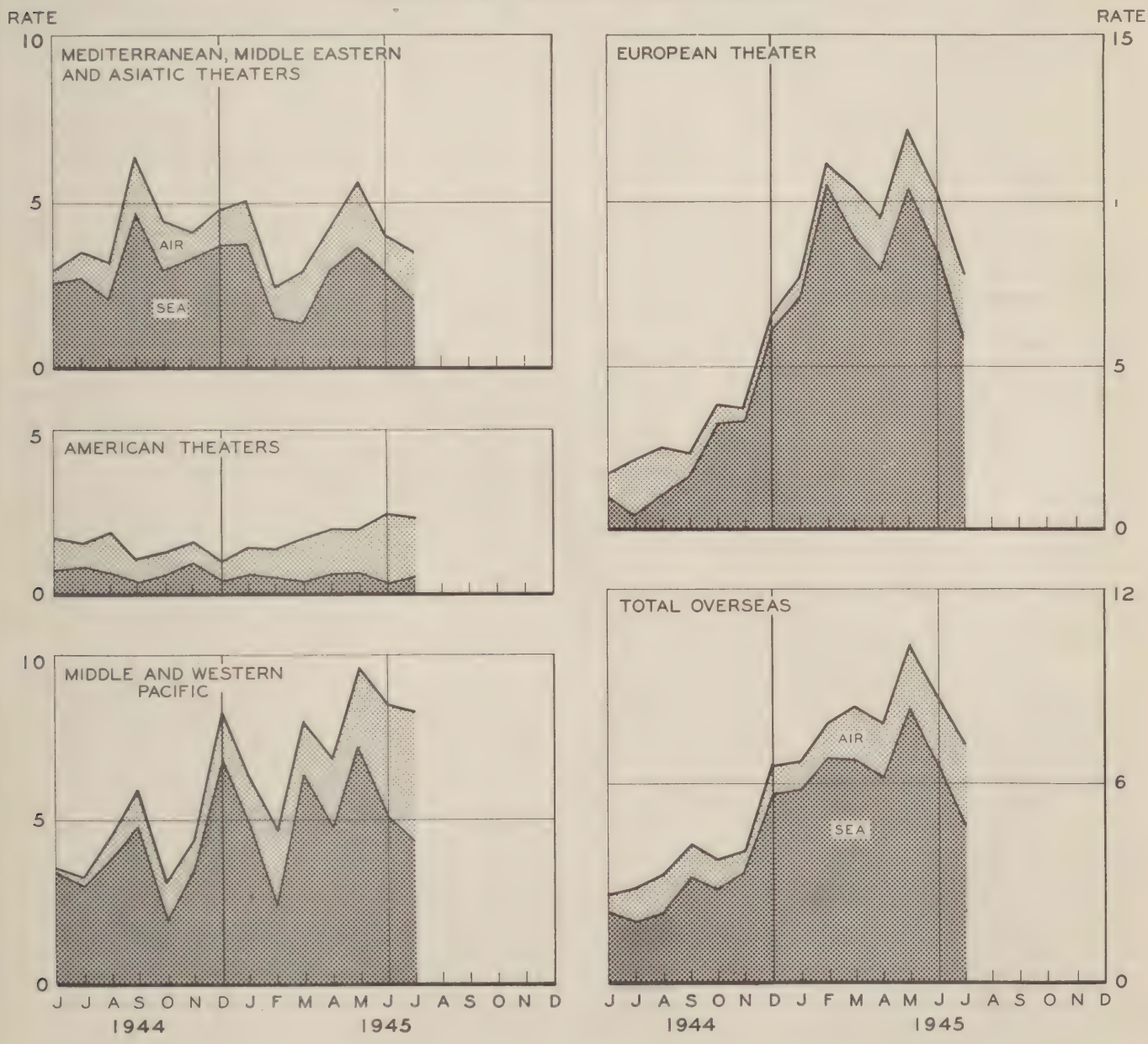
TREND OF EVACUATION FROM OVERSEAS (Continued)

The objective of returning patients at maximum speed to the Zone of Interior from the European and Mediterranean Theaters having been attained, reversion first to a 90- and then to a 120-day evacuation policy in these theaters will further reduce the volume of evacuation. An increasing number of patients may be expected from the Pacific, however, if projected operations are carried out. It is currently estimated that future evacuation from the Pacific will occur at a rate of about 20,000 to 30,000 per month. The charts below indicate in rate form the volume of evacuation which has occurred from each theater, the solid line representing all evacuees and the dashed showing the portion evacuated by water.

Patient transfers within the Z/I averaged 56,000 per month during the first half of 1945, 43,000 from the debarkation hospitals and 13,000 from other hospitals in the Z/I. Of the grand total 85 percent were transferred by rail and the rest by air. However, 94 percent of the overseas patients debarked by air were also transferred by air within the Z/I, and 96 percent of those debarked by water were transferred by rail.

ARMY PATIENTS DEBARKED IN THE U.S. FROM OVERSEAS THEATERS

EVACUEES PER THOUSAND MEN PER MONTH



USE OF HOSPITAL SHIPS

The extensive use of hospital ships by the Army was not foreseen in prewar logistic planning, but has resulted from extensive overseas operations. The need for evacuating patients by sea within and from active theaters is of such importance as to warrant specially fitted ships not liable to preemption for other purposes. The hospital ship program has several times required expansion in order to meet the needs of overseas commanders for intra-theater shuttle service and the requirements of evacuation to the Z/I. At present there are 26 hospital ships serving the Army, and three more are expected to be ready by the end of the year. The current carrying capacity is about 17,000 patients, and the projected total is about 19,000. Time schedules have not permitted new construction, so that the conversion of existing ships has been relied upon. Such conversion has not extended beyond the minimum degree consonant with their mission. Three of the ships available to the Army, the HOPE, COMFORT, and MERCY, are owned and operated by the Navy but staffed with Army hospital ship complements. In addition the Navy has twelve other hospital ships and three specially fitted transports (APH's) which are, of course, armed vessels.

There are marked differences between Army and Navy ships. Designed primarily to support fleet actions and the assault phases of amphibious operations, the Navy hospital ships are comparable with shore hospitals, having complete medical, surgical, and neuropsychiatric facilities, and being staffed by well-qualified specialists in the major fields. The Army need has been visualized primarily as one for evacuation service rather than for complete hospital care. In consequence Army hospital ships are staffed and equipped in rather less elaborate fashion. The Army has used its ships for the return of the helpless to the Z/I, as intra-theater evacuation ships, as both evacuation and hospital ships in support of amphibious operations, and, in emergencies, as a means of transporting medical supplies, Medical Department personnel, and medical units.

The chief demand for Army hospital ships has derived from the need to return to the Z/I litter patients and such neuropsychiatric patients as require security accommodations. Navy employment of hospital ships places much less emphasis on their use for returning patients to the Z/I, for which air transport and troop ships are more often used. The Army experience has been that the movement of Army transports cannot always be sufficiently well controlled to permit complete reliance upon them for evacuating all patients. In consequence, as soon as large forces were deployed overseas it became necessary to utilize a certain number of special ships for this purpose. During the period January 1944 through May 1945, hospital ships returned to the Z/I 63,000 Army and other patients, one sixth of the total of 388,000. During the same period 69,000 were returned by air, and the remaining 256,000 by troop transport. At the present time 18 ships are operating between the Z/I and overseas theaters, 4 are assigned to theater commanders for intra-theater use, and 4 are out of operation because of repairs or improvements, such as air-conditioning of operating rooms and the like, needed for ships being redeployed to the Pacific. Any material delay in effecting the repairs and improvements needed for ships destined for the Pacific would interfere with their availability this fall. Ultimately all but five of the 29 ships available to the Army will be in Pacific service of one kind or another, according to present plans. Redeployment will be gradual, however, and will not be completed before 1 January 1946.

Both Army and Navy hospital ships have played an important part in intra-theater evacuation of patients to base areas, although satisfactory compilations of the number of patients carried have not been made. In certain theaters, notably the Mediterranean and the Southwest Pacific, their use in this fashion has been especially extensive. In the Asiatic theaters, in contrast, air evacuation is the rule, and in the European Theater the greater share of the load has been handled by air and by rail. Distances in the Pacific make it desirable to minimize evacuation among bases, but a certain amount of such transfer is unavoidable, and there is a steady flow from forward to base areas. Some of the smaller hospital ships available to the Army are not well suited for the long voyage back to the Z/I, and must be confined to intra-theater hauls. It is anticipated that about eight of the 24 ships, or their equivalent in carrying capacity, will be employed in the Pacific for intra-theater evacuation. The redeployment of Army ships to the Pacific should make it possible to control the movement of hospital ships more closely in accordance with the needs for evacuation than has hitherto been possible. LST(H)'s have been used in certain emergencies but are not suited for the length of voyage which is usually necessary.

A vital but auxiliary role will be played by hospital ships in future amphibious operations as in the past. Although the manner of their employment varies with tactical and other conditions, there is an increasing trend toward bringing them into the combat area as early as D-Day, as was done at Okinawa. It is hoped that Navy hospital ships may be able to serve a truly hospital function, returning considerable numbers of men to duty either directly or through shore facilities once these become available, rather than merely providing ini-

USE OF HOSPITAL SHIPS (Continued)

tial care followed by evacuation from the beachhead. Although Army hospital ships have supported a number of operations, they require considerable medical and surgical support for this purpose and are less adequate than the more elaborate Navy hospital ships. Assuming a round trip distance not to exceed approximately 2,000 miles, it has been estimated that each assault division should be supported by a minimum of two hospital ships having the equivalent of 500-bed capacity and speed of 12 knots each, and that build-up divisions require none. However, the need will of course depend not only upon the resistance which is met but also upon the distance to supporting bases and upon the extent to which medical means are provided on other ships, especially APA's.

The utilization of hospital ships at the beachhead has improved as the scheme for controlling evacuation from shore to ship has evolved in more systematic fashion. LST(H)'s now serve as control points, in addition to their other duties, directing the flow of patients to specially staffed troop transports and to hospital ships available off the target. The hospital ships are the only convention-protected ships in the evacuation chain, for both the LST(H)'s and the APA's are combat ships. In consequence, the movement of hospital ships is controlled with a view to their own security and to any danger to which their obvious presence might expose combat vessels, although the latter is no longer so important as formerly. At the present stage of combat in the Pacific it is doubtful if the early arrival of hospital ships constitutes any significant hazard to the security of combat vessels and the assault generally. They are often ordered out of the transport area before dark, for example, although at Okinawa they lay darkened among the transports for their own security from air attack. Hospital ships have sustained enemy attacks, but the policy set by the combined Chiefs of Staff is that they shall benefit from the protection of the Geneva Convention and comply with its provisions. It would appear that the attacks, exemplified by that on the COMFORT off Okinawa, were isolated instances of individual action not to be construed as evidence of any general policy on the part of the Japanese. It is known that Japanese hospital ships have been attacked also. Unless the future should indicate that the protection of the Geneva Convention has ceased to apply in the Pacific, it is anticipated that the present policy will continue unchanged. The psychological benefits accruing to patients on protected ships are considerable.

Although it is not intended that hospital ships shall be diverted from their intended function to that of carrying supplies, personnel, and medical units, they have often been useful in this regard in emergencies, and have undoubtedly helped to maintain the balance of medical means and medical needs, especially in the Mediterranean and in the Southwest Pacific. The Navy characteristically employs its hospital ships as emergency floating medical depots on which neighboring ships may draw in accordance with need. Army ships used in support of operations can be loaded with a small, well-balanced depot of stock of the more important items to serve as a floating store from which unpredicted needs can be met.

HOSPITALIZATION IN THE ZONE OF INTERIOR

Overseas Patients Received

Overseas patients processed through debarkation hospitals during July totaled 37,216. This figure represents a decrease of approximately 5,000 from the total in June, continuing the downward trend of evacuations which started that month. Current forecasts indicate that overseas evacuations during August may be slightly in excess of 25,000.

U. S. ARMY PATIENT EVACUEES PROCESSED THROUGH DEBARKATION HOSPITALS
TOTAL PATIENTS REMAINING AND BATTLE CASUALTIES REMAINING IN
THE GENERAL AND CONVALESCENT HOSPITALS
July 1944-July 1945

Month	Overseas Evacuees Processed a/	Patients Remaining b/	
		All Patients	Battle Casualties
July 1944	10,566	61,954	8,926
August	13,970	69,367	12,061
September	16,630	79,315	17,138
October	17,437	87,282	24,158
November	17,852	95,068	28,765
December	31,350	108,640	37,335
January 1945	33,456	132,842	47,649
February	37,727	150,624	55,535
March	45,131	181,700 c/	70,555 c/
April	42,041	199,702 c/	81,809 c/
May	56,706	221,121 c/	93,308 c/
June	42,393	245,435 c/	110,682 c/
July	37,216	239,409 c/	111,331 c/

a/ These data cover U. S. Army patients processed through debarkation hospitals during each month and as such differ slightly from the number of patient evacuees reported by the Transportation Corps.
b/ Data as of the last Friday of each month.
c/ Data exclude patients in triage at debarkation hospitals.

By the end of July, almost all the battle wounded patients and most of the serious non-battle patients had been evacuated from the European and Mediterranean Theaters. Some change may, therefore, be expected in the diagnostic composition of patients evacuated henceforth when the principal source of overseas patients will be the Pacific and Asiatic theaters. Precise forecasts of the probable medical classification of future evacuated patients are not available. However, a review of recent experience in evacuating patients from the two areas may be informative. The following table shows, by place of debarkation, the relative distributions of the evacuee loads by major medical classification:

ANALYSIS OF EVACUATIONS BY MAJOR DIAGNOSTIC CLASSIFICATION
AND PLACE OF DEBARKATION
(Based on debarkations during March, April, and May)

Classification	Rates per 1,000 Evacuees	
	East Coast	West Coast
Medical	219	225
Surgical	596	391
Neuropsychiatric	155	188
Convalescent	30	196

Definite increase in the percentage of surgical patients in west coast debarkations can be expected if the Pacific theater becomes active. Although this will mean lower ratios of medical and NP patients, the numbers of these types of patients can be expected to

HOSPITALIZATION IN THE ZONE OF INTERIOR (Continued)

increase as troop strength increases. In addition, tropical diseases plus a higher incidence of dermatologic conditions in the Pacific will mean more medical patients; and NP rates, which have always been higher in the Pacific, are expected to contribute to a larger patient load.

Patient Trend

The patient population of the general hospital system reached its peak at the end of June 1945 with a total of 245,435 patients remaining in the system. During July, the total patients remaining receded from that peak, dropping to 239,409 at the end of the month. The principal portion of this decrease occurred in the convalescent hospitals, which went from a peak of 53,278 patients at the end of June to 47,464 at the end of July. Although total patients remaining in the system dropped, the patient load in the general hospitals proper remained almost unchanged. Beds occupied in general hospitals continued to increase, exceeding the June total by 2,000 at the end of July. Actually, this increase for Army patients only was greater since during July about 3,000 German prisoners of war were repatriated from POW General Hospital No. 2. It is apparent that, excluding the effect of repatriation of prisoners of war, the initial contraction in the general hospital system patient load is occurring in the convalescent hospitals.

Dispositions

Increases in final dispositions from the general hospital system continued during July as is shown by the following table.

NET ADMISSIONS AND FINAL DISPOSITIONS, GENERAL AND CONVALESCENT HOSPITALS

Week Ending	Net Admissions a/ (Overseas and Z.I. Patients)	Final Dispositions (Overseas and Z.I. Patients)			
		Total	Duty	CDD	Other
1 June	23,943	11,287	5,687	4,795	805
8 June	25,102	11,511	5,934	4,687	890
15 June	20,226	11,920	5,857	5,312	751
22 June	19,919	12,565	6,130	5,723	712
29 June	21,523	12,813	6,213	5,780	820
6 July	17,774	12,928	5,894	6,165	869
13 July	17,764	13,210	5,948	6,548	714
20 July	16,040	13,879	6,259	6,675	945
27 July	19,729	14,021	6,078	7,128	815

a/ Total admissions less disposition by transfer.

The proportion of patients returned to duty continued to decrease.

General Hospitals Proper

The only change in the authorized and effective bed capacities in general hospitals was the addition of 369 beds to the capacity of Woodrow Wilson General Hospital. This increased capacity was obtained through the completion of additional messing facilities which allowed greater utilization of existing ward space.

Current and prospective increases in the numbers of dermatologic patients being received from the Pacific Theater, plus the need for securing maximum utilization of the limited number of dermatologists, has made it necessary to establish dermatology centers in general hospitals for the specialized treatment of these patients. Eight centers, totaling 1,800 beds were established during July in the following hospitals: Edwards - 250 beds ; Butner - 250 beds; Moore - 500 beds; Wakeman - 150 beds; Carson - 250 beds; Brooke - 200 beds; Harmon - 200 beds.

Generally, the plan of setting up dermatology centers in hospitals with adjacent convalescent hospitals was followed because most of these patients are ambulatory and will not need to occupy a general hospital bed during the full course of their treatment.

HOSPITALIZATION IN THE ZONE OF INTERIOR (Continued)

PATIENTS REMAINING IN GENERAL HOSPITALS PROPER
End of July 1945

Command	Number of Hospitals	Authorized Patient Capacity a/	Effective Beds b/	Patients Remaining		Beds Occupied
				Number c/	Percent of Effective Beds	
Total	65	164,364	152,979	191,945	125.5	131,813
Service Commands						
First	3	9,428	8,528	11,109	130.3	7,557
Second	5	18,107	14,907	18,116	121.5	13,593
Third	5	11,502	11,502	16,013	139.2	9,944
Fourth	12	31,474	29,349	38,508	131.2	28,292
Fifth	8	15,300	15,300	21,256	138.9	13,113
Sixth	4	8,561	8,561	12,190	142.4	8,296
Seventh	5	14,568	14,548	18,394	126.4	12,913
Eighth	10	23,497	23,497	27,345	116.4	17,691
Ninth	12	28,927	23,787	25,650	107.8	17,852
The Surgeon General (Walter Reed)	1	3,000	3,000	3,364	112.1	2,562

a/ Sub-authorized by The Surgeon General on basis of total authorization of 169,500 from G-4
b/ Authorized beds less 10,365 debarkation beds; 1,000 beds held for debarkation back-up purposes; and 20 beds temporarily not available for use by Medical Regulating Officer.
c/ Data exclude patients in triage at debarkation hospitals.

Total patients remaining in general hospitals at the end of July decreased only 212 from the end of June, while bed occupancy increased 2,074 to 131,813 at the end of July. Actually, total patients remaining increased in most service commands. A decrease of approximately 2,800 in the Fourth Service Command resulted principally from the repatriation of POW patients from Camp Forrest. Patients on furlough or leave from the general hospitals decreased 2,286, from 62,418 at June's end to 60,132 at the end of July.

In order to insure rapid treatment and disposition of patients from the general hospitals and to maintain present high utilization of personnel, The Surgeon General is making efforts to secure a speedy contraction of the present large furlough group. Thus, despite a decreasing total patient load, it may be expected that bed occupancy in general hospitals will approximate present levels for the next two or three months. Thereafter, a planned and coordinated contraction in authorized patient capacity of the general hospitals is contemplated. Some of the important considerations involved in carrying out such a reduction will be the size and composition of the anticipated patient load; the needs of the Veterans Administration and other Federal agencies for hospitals; the relative desirability for retention by the Army of present structures.

Convalescent Hospitals

Mitchell remained the only convalescent hospital not operating at full authorized capacity at the end of July, although a small increase in its capacity was obtained during the month. Continued progress was noted in the remaining construction and conversion work at convalescent hospitals and, by the end of July, a substantial portion of the construction in progress at convalescent hospitals had been completed. The procurement and receipt of necessary physical therapy equipment at most hospitals had reached by July's end 90 percent or better of scheduled requirements; for occupational therapy equipment, receipts average 85 percent.

Patients remaining in convalescent hospitals totaled 47,464, a decrease of 5,814 patients from the end of June. However, beds occupied in the convalescent hospitals decreased by only 2,470 during the same period, reflecting again the return of patients formerly on furlough to the hospitals for completion of their treatment. Carson Convalescent Hospital, which for some time previous to July had been operating with a serious overload of patients, experienced the largest decrease during the current month, going from a total of 6,241 patients remaining down to 4,002 at the end of July.

HOSPITALIZATION IN THE ZONE OF INTERIOR (Continued)

OPERATING CAPACITIES AND PATIENTS REMAINING IN CONVALESCENT HOSPITALS
June and July 1945 a/

Hospital	Operating Capacity		Patients Remaining		Beds Occupied July	Percent of Operating Capacity July	
	July	June	July	June		Patients Remaining	Beds Occupied
Total	49,656	49,378	47,464	53,278	34,471	95.6	69.4
Edwards	6,000	6,000	4,702	5,132	3,390	78.4	56.5
Upton	3,500	3,500	4,397	4,452	2,951	125.6	84.3
Pickett	5,000	5,000	5,034	5,645	4,303	100.7	86.1
Story	1,800	1,800	1,212	1,852	830	67.3	46.1
Butner	5,500	5,500	4,793	6,446	4,442	87.1	80.8
Welch	3,500	3,500	4,101	3,829	2,664	117.2	76.1
Wakeman	6,000	6,000	5,217	5,425	3,741	87.0	62.4
Percy Jones	6,000	6,000	5,748	5,659	4,174	95.8	69.6
Carson	4,500	4,500	4,002	6,241	3,016	88.9	67.0
Brooke	5,000	5,000	5,303	5,875	3,944	106.1	78.9
Mitchell	1,156	878	1,218	1,293	557	105.4	48.2
Madigan	1,500	1,500	1,627	1,328	349	108.5	23.3
Old Farms	200	200	110	101	110	55.0	55.0

a/ End of month.

Final dispositions from the convalescent hospitals during July totaled 18,560, or 35 percent of the total patients remaining at the beginning of July, a substantial increase in the numbers of dispositions over the comparable June period. This improved disposition experience reflects the degree of achievement that has been attained in the full operation of the convalescent hospital program and continues the trend noticed during June. Patients returned to duty from convalescent hospitals measured as a percent of total dispositions declined from 36.7 percent in June to 26.8 in July.

FINAL DISPOSITIONS FROM CONVALESCENT HOSPITALS
April through July 1945

Month	Total Final Dispositions	Patients Returned To Duty	Percent Returned To Duty of Total Dispositions
April	5,483	2,347	42.8
May	11,434	4,738	41.4
June (4 weeks only) a/	15,701	5,767	36.7
July	18,560	4,970	26.8

a/ Excludes for comparison purposes dispositions during the week ending 1 June which totaled 3,623.

Station and Regional Hospitals

Bed authorizations in station and regional hospitals increased slightly during July. Patients remaining, however, were slightly less than at the end of June, continuing the sea-

HOSPITALIZATION IN THE ZONE OF INTERIOR (Continued)

sonal trend noticed in that month. Utilization of available beds continued high, particularly for regional hospitals where patients remaining amounted to 91.3 percent of effective beds. Data for the Sixth Service Command include for the first time 180 authorized beds and 90 patients remaining for Edmonton and Whitehorse Station Hospitals in the recently attached Northwest Service Command.

BEDS AUTHORIZED AND PATIENTS REMAINING IN STATION AND REGIONAL HOSPITALS
End of July 1945

Command	Authorized Beds a/	Effective Beds b/	Patients Remaining		Beds Occupied c/
			Number c/	Percent of Effective Beds	
Army Service Forces - Total	73,402	52,403	44,799	85.5	43,738
Service Commands - Total	59,862	47,251	41,487	87.8	40,451
Station Hospitals	28,523	22,179	18,585	83.8	18,402
First	141	113	36	31.9	36
Second	1,477	1,182	859	72.7	849
Third	2,185	1,748	1,600	91.5	1,566
Fourth	6,213	4,970	4,135	83.2	4.090
Fifth	550	440	386	87.7	378
Sixth	1,165	932	931	99.9	926
Seventh	1,610	1,288	1,088	84.5	1,080
Eighth	7,730	6,184	5,782	93.5	5,752
Ninth	7,172	5,098	3,657	71.7	3,614
MDW	280	224	111	49.6	111
Regional Hospitals	31,339	25,072	22,902	91.3	22,049
First	566	453	462	102.0	412
Second	1,250	1,000	944	94.4	877
Third	3,000	2,400	2,349	97.9	2,236
Fourth	10,450	8,360	7,083	84.7	6,935
Fifth	1,665	1,332	1,215	91.2	1,199
Sixth	750	600	512	85.3	444
Seventh	3,377	2,702	2,574	95.3	2,529
Eighth	5,100	4,080	4,176	102.4	3,944
Ninth	3,776	3,021	2,928	96.9	2,836
MDW	1,405	1,124	659	58.6	637
Chief of Transportation - Total	13,540	5,152	3,312	64.3	3,287

a/ Authorized by Commanding Generals of Service Commands or by Chief of Transportation.
b/ Authorized beds less an allowance of 20 percent for dispersion and 7,900 debarkation beds
c/ in Transportation Corps hospitals and Camp Haan Station Hospital.

Personnel

The addition of approximately 900 beds to the general-convalescent hospital system in the Zone of Interior, raised overall requirements for personnel in ASF hospitals by 500. The number of personnel assigned to ASF hospitals increased by 5,000 during the month: Medical Corps officers 150, nurses 750, other officers 250, enlisted personnel 2,900, civilians 950. Despite the additional personnel assigned during the month, there remain shortages in practically all officer corps other than nurses.

The total number of personnel assigned to ASF hospitals in the zone of interior at the end of July totaled 168,000. Of this number, 105,000 were military personnel and 63,000 civilians.

HOSPITALIZATION IN THE ZONE OF INTERIOR (Continued)

SUMMARY ASF HOSPITALIZATION IN THE ZONE OF INTERIOR a/
End of July 1945

Type of Hospital	Patient Capacity		Patients Remaining		Beds Occupied	Personnel Shortages		
	Authorized	Effective b/	Number c/	Percent of Effective Beds		MC	ANC d/	Total
Total	274,226	249,886	280,896	112.4	206,735	170	-1,836	- 685
Station & Regional	59,862	47,251	41,487	87.8	40,451	-66	- 725	-1,143
General	164,364	152,979	191,945	125.5	131,813	123	-1,102	508
Convalescent	50,000	49,656	47,464	95.6	34,471	113	- 9	- 50

a/ Excludes station hospitals under the Chief of Transportation.
b/ Defined in preceding tables.
c/ Data exclude patients in triage at debarkation hospitals.
d/ Civilian nurses included. Overages are denoted with a minus sign (-) in all columns.

Summary

BEDS AUTHORIZED AND PATIENTS REMAINING IN ASF HOSPITALS
BY TYPE OF CARE AND TYPE OF HOSPITAL
End of July 1945 a/

Type of Patient	Beds Authorized	Patients Remaining				
		Total	General	Convalescent	Regional	Station b/
Total	269,157	284,208	191,945	47,464	22,902	21,897
General-Convalescent Care	179,509	214,895	167,882	47,013	-	-
Evacuees		201,280	156,157	45,123	-	-
Z/I		13,615	11,725	1,890	-	-
Regional-Station Care	74,812	53,988	15,155	414	21,040	17,379
Regional	12,002	8,900	3,109	-	5,791	-
Station	62,810	45,088	12,046	414	15,249	17,379
Non-Army	14,836	15,325	8,908	37	1,862	4,518
POW	10,029	11,144	6,560	16	1,130	3,438
Civilians	3,075	2,968	1,421	19	569	959
Veterans Administration	1,355	669	557	-	112	-
Other	377	544	370	2	51	121

a/ Excludes debarkation beds and patients.
b/ Includes hospitals under the Chief of Transportation.

Major trends during July were as follows:

a. Essential completion of evacuations of patients from the Atlantic theaters focuses attention on the magnitude and character of the future Pacific inflow.

b. The passing in July of the peak in total patients remaining in the general hospital system.

c. Bed occupancy in the general hospitals proper continues to increase as furloughed patients are returning to the hospitals for treatment.

d. Establishment of specialized dermatology centers.

e. Continued increase in dispositions of patients, particularly from the convalescent hospitals.

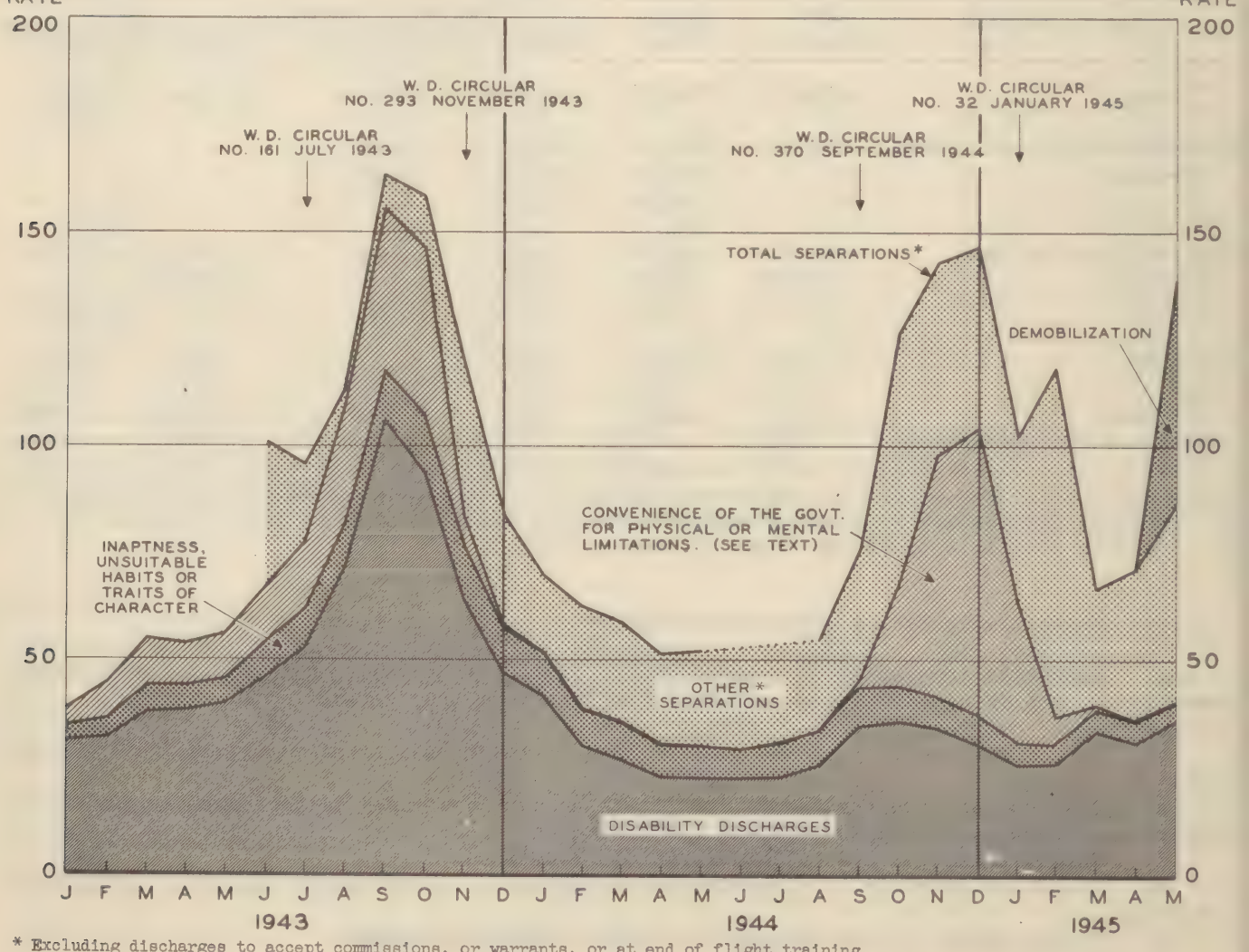
f. Little change in the regional and station hospital system.

SEPARATIONS OF ENLISTED MEN

Permanent separations of enlisted men from the Army, from the beginning of the war until the end of May 1945, totalled 1,799,000, a number equivalent to about 120 divisions. This amounts to about 24 percent of the maximum enlisted strength of the Army at any one time since the beginning of the war. In addition, 649,000 men have been discharged to accept commissions or warrants, but this number has increased only slowly since the end of 1942. The total volume of separations is summarized by major cause in the table at top of the next page. Separations for physical and mental disqualification, including discharges for disability and inaptness, account for 57 percent of all separations. Deaths explain another 12 percent and separations for age an almost equal number. Demobilization, having just started, accounts for 1.8 percent of all separations through the end of May.

The trend of separations since January 1943 is shown in the chart below by cause and by months in rate form for all separations except those to accept commissions. The major change in the separation rate which has occurred since this subject was last covered in HEALTH (March 1945), appears at the beginning of 1945 after the promulgation of WD Circular 32, 27 January 1945. A large number of men who did not meet MR 1-9 minimum physical standards for limited service, and for whom there were judged to be no appropriate military assignments readily available, were being discharged under section X, AR 615-360 (Convenience of the Government), in accordance with the provisions of WD Circular 370, 1944. Rescission of these provisions by WD Circular 32, 1945, virtually eliminated discharges on these grounds. It will be noted that the change in the number of section II, AR 615-360 (Disability), discharges was slight by comparison, although WD Circular 370 authorized separation under either section II or section X. It can be seen from the chart that many of the fluctuations arose from changes in administrative policy covering separation. A second point of in-

SEPARATIONS OF ENLISTED MEN PER THOUSAND MEN PER YEAR



* Excluding discharges to accept commissions, or warrants, or at end of flight training.

SEPARATIONS OF ENLISTED MEN (Continued)

SEPARATIONS OF ENLISTED MEN
7 December 1941 - 31 May 1945

Cause	Separations	
	Number (Thousands)	Percent of Total
TOTAL	1,799 c/	100.0
Deaths, Total	210	11.7
Battle	161	8.9
Nonbattle	43	2.4
Declared Dead	6	0.3
Physical and Mental Disqualification a/	1,028	57.1
Over 38 and "Overage"	207	11.5
Demobilization	32	1.8
Currently Missing or PW	47	2.6
Other b/	275	15.3

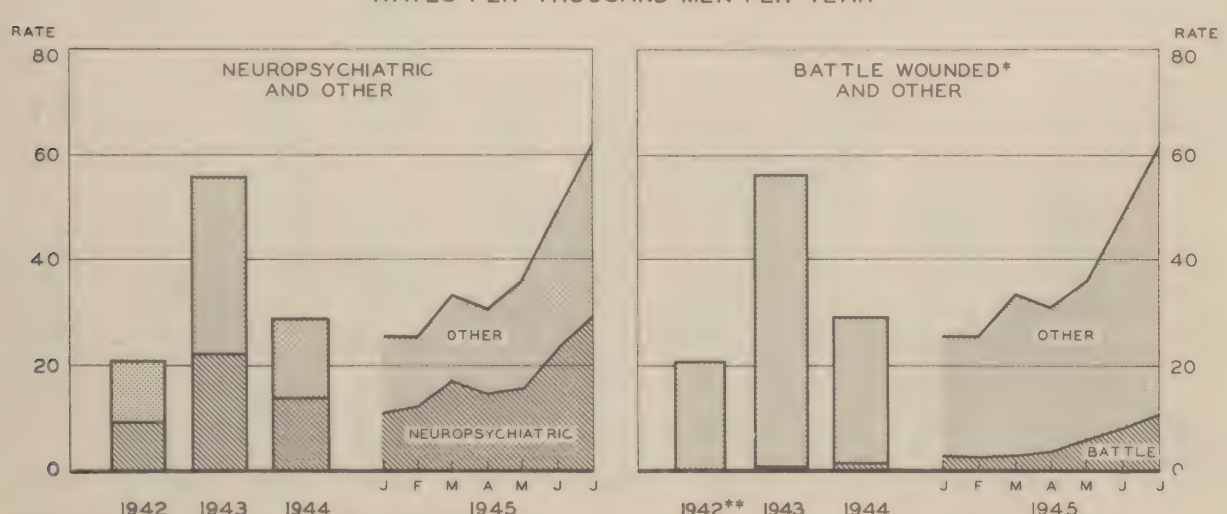
a/ Includes CDD, Inaptness, and Enuresis.
b/ Includes retired, undesirable habits, and transferred to inactive status.
c/ Excludes 649,000 separations to accept commissions or warrants.

terest concerns the "other separations" category shown on the chart, which includes overage, currently missing, and deaths.

Demobilization of high-point personnel which began during May is represented by the top area at the right-hand side of the chart. The men actually demobilized during that month numbered more than 31,000 and, together with those who were demobilized because they were over 40, exceeded 38,000. Preliminary June data from the separation centers indicate that an additional 120,000 men were discharged, making a total of about 158,000 for demobilization as a whole, apart from the usual separations for death, physical disability, and the like.

Analysis of the area on the foregoing chart representing disability discharges results in the two charts below which reveal changes in the trend of discharge for neuropsychiatric reasons and for battle causes. It can be seen that the neuropsychiatric discharge rate, which fell from an average of 22 per thousand strength per year in 1943, and averaged 14 in 1944, followed a rather steady uptrend during the first seven months of 1945 to reach a high of 29 per thousand per year. Discharges for injuries received in battle, shown in the second chart, also rose steadily from January to July. It is possible that some admitted as wounded may be discharged for some other cause, thus tending to inflate the number of discharges for nonbattle causes at the expense of those for battle.

SEPARATIONS OF ENLISTED MEN FOR DISABILITY
RATES PER THOUSAND MEN PER YEAR



* Discharged as result of wounds received in battle.
** Battle wounded not available.

PROVISION OF WHOLE BLOOD TO OVERSEAS THEATERS

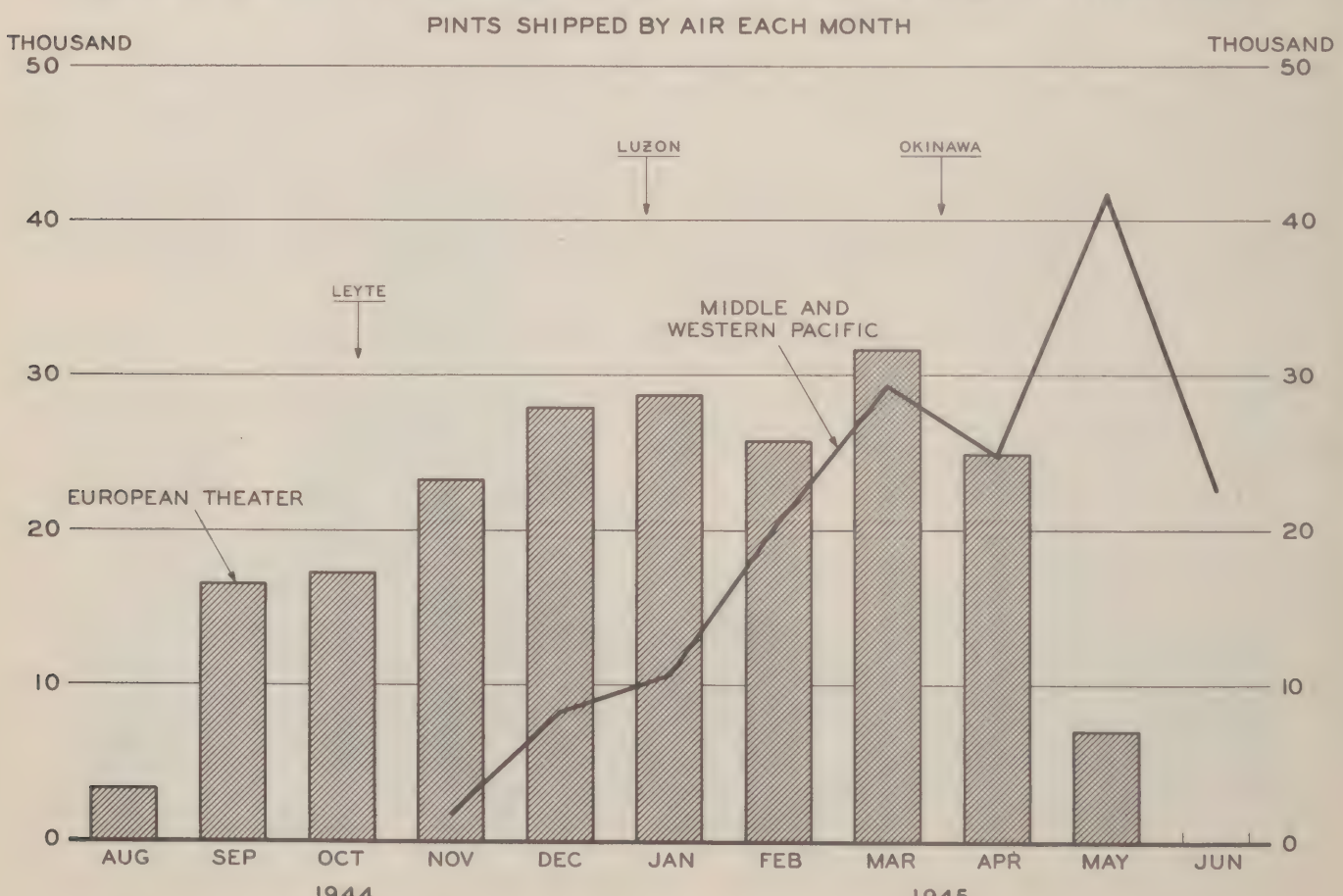
The use of blood plasma in the treatment of shock, hemorrhage, and burns has been an important development of the war, but blood substitutes can serve only as a temporary expedient and do not obviate the need for whole blood in treating shock and hemorrhage in the seriously wounded. Because of the ease and timeliness with which they can be administered in forward areas, blood substitutes serve well to maintain the patient until he can be moved to a point where whole blood can be administered. The need for whole blood is especially acute at front-line installations where patients are prepared for surgery. Until the means were found to preserve whole blood so as to permit air shipment from the Z/I, adequate stocks of fresh whole blood could not be assured and only limited amounts could be used. Since the inauguration of air shipments of whole blood from the Z/I to the European Theater on 21 August 1944, 206,000 pints have been received there, new methods of extending the effective life of the blood and for shipping larger quantities have been developed, and its distribution to the Pacific has been effected.

The first shipment of whole blood to the Pacific was made on 15 November 1944 under a joint Army-Navy program. The Navy Air Transport Service makes the shipments, using Guam as a base for distribution to other points. Increasingly adequate quantities have been made available in turn at Leyte, Luzon, Iwo Jima, and Okinawa. Up to 1 July, 159,000 pints had been shipped to the Pacific, and plans have been completed for providing a greatly increased volume to meet the needs of projected operations. The accompanying chart records the volume of shipment by months to the European Theater and to the Pacific.

In amphibious operations all medical units have been adequately stocked with whole blood, LST(H)'s have carried reserve stocks, and one LST has usually been designated as a blood bank. The Navy has been in a position to replenish the supply from its blood bank at Guam.

Eleven centers are now established in the Z/I for processing whole blood including four of the five on the East Coast which furnished blood for the European Theater, the Baltimore center having closed down on 19 May. There should be no lack of whole blood for forward surgery in future operations.

WHOLE BLOOD SHIPMENTS TO EUROPEAN AND PACIFIC THEATERS



STATISTICAL TABLES

Admission rates for selected diseases and for nonbattle injury in the United States and in overseas theaters are shown in the tables on the following pages. The rates include cases admitted to hospital or confined to quarters for a day or more, and have been derived from AGO Form 8-122 (formerly MD Form 86ab), both regular and telegraphic, submitted to The Surgeon General by each overseas theater or lesser command, and by posts, camps, and stations in the United States. Only the major overseas areas are shown separately, but the total overseas rates are based upon a complete consolidation. The rates for each month are based upon the experience of four or five weeks depending upon the number of Fridays in a month. Admission rates for wounded in action, presented in the table below, pertain to calendar-month periods and are derived from The Adjutant General's report, Battle Casualties of the Army, which covers hospital admissions only. The rates in each case apply to all Army strength in the particular area; air, ground, and service. Rates computed from incomplete reports and those derived from the weekly telegraphic reports are distinguished from those based on the final monthly report.

The venereal disease rates derived from AGO Form 8-122 are generally higher than those based on the Monthly Venereal Disease Statistical Report. Venereal infections contracted prior to service have been excluded from the rates. Tentative neuropsychiatric admission rates are presented for 1944 and 1945. Not systematically reported on AGO Form 8-122 until late in 1943, these rates may not be as firm as those for communicable diseases. Malaria rates for the continental United States reflect only infections acquired in the United States; rates based on all admissions are much higher. They also measure diagnosed malaria only, but include both primary attacks and recurrences insofar as these are reported as malaria. A variable amount of malaria, differing from theater to theater, is at first reported as fever of undetermined origin. Many of these cases are later correctly diagnosed and enter into the rates. Since the system of reporting does not make it possible to subtract such cases from the undiagnosed category, some duplication continues to exist.

WOUNDED IN ACTION, AS REPORTED TO THE ADJUTANT GENERAL
Hospital Admissions per Thousand Men per Year

Month and Year	Overseas Commands							
	Total a/ Overseas	North American	Latin American	ETO b/	MTO	Pacific c/	CBI	Africa-Middle East
1943 Average	23	6	0	7	62	15	4	4
1944 Jan-Jun	45	0	0	44	108	23	14	9
Jul	143	-	-	269	94	30	24	19
Aug	101	-	-	189	73	14	9	5
Sep	113	-	-	174	166	20	3	4
Oct	96	-	-	118	170	52	3	-
Nov	133	-	-	235	36	42	5	0
Dec	118	-	-	189	30	46	7	-
1944 Average	87	0	0	139	104	30	11	7
1945 Jan	126	-	-	202	14	52	13	-
Feb	105	-	-	134	59	99	14	0
Mar	105	-	-	156	34	60	3	0
Apr	111	-	-	113	147	139	1	-
May	29	-	-	5	3	101	1	-

a/ Including casualties among men en route.
b/ Excluding Iceland.
c/ Includes USAFMIDPAC and USAFWESPAC
Dash is used to denote no admissions, zero to denote a rate of less than 0.5.

STATISTICAL TABLES (Continued)

ADMISSIONS TO HOSPITAL AND QUARTERS
Rates Per Thousand Men Per Year

Month and Year	United States	Overseas Commands								
		Total	Alaska	Caribbean	ETO a/	MTO	POA	SWPA	Asiatic	ME and PGC
ALL DISEASE										
1942 Average	664	676	667	823	693	452	519	821	1,048	1,330
1943 Average	739	889	624	670	837	943	971	1,046	991	1,107
1944 Jan-Jun	619	695	566	528	578	812	600	902	967	949
Jul-Dec	495	623	351	536	440	880	513 b/	804	1,152	842
Average	563	654	478	531	492	846	561 b/	840	1,077	896
1945 Jan	603	658	337	529	605	878	420	799	728	658
Feb	626	651	363	587	577	790	526	905	652	554
Mar	592	617	384	546	530	714	399 b/	973	647	631b/
Apr	543	(600)	411	553	469	657	(382)b/	1,058	710	573
May	541	(643)	658	515	531	600	(387)b/	1,144	712	(587)
Jun	515	(630)	435	629		704				532
Jan-Jun	569		426	562		726				
Jul	476b/									
Aug										
Sep										
Oct										
Nov										
Dec										
NONBATTLE INJURY										
1942 Average	91	123	152	107	109	96	104	176	80	158
1943 Average	80	136	182	105	100	149	131	171	84	140
1944 Jan-Jun	69	114	145	75	85	145	118	151	95	107
Jul-Dec	66	112	100	61	105	131	102 b/	132	97	92
Average	67	113	127	68	97	138	111 b/	139	96	99
1945 Jan	55	141	102	60	174	103	92	104	105	69
Feb	50	105	94	67	114	88	84	103	99	73
Mar	49	104	109	61	104	89	80 b/	128	105	69b/
Apr	48	(108)	100	65	113	98	(70)b/	115	104	64
May	49	(107)	84	57	112	97	(87)b/	119	91	(59)
Jun	53	(88)	92	59		85				62
Jan-Jun	51		97	61		93				
Jul	48b/									
Aug										
Sep										
Oct										
Nov										
Dec										

a/ Excluding Iceland.
b/ Based on Incomplete Reports.
( ) Telegraphic Reports.

STATISTICAL TABLES (Continued)

ADMISSIONS TO HOSPITAL AND QUARTERS
Rates Per Thousand Men Per Year

Month and Year	United States	Overseas Commands								
		Total	Alaska	Carib-bean	ETO a/	MTO	POA	SWPA	Asiatic	ME and PGC
ALL VENEREAL DISEASE										
1942 Average	39	32	7	74	38	36	12	32	64	80
1943 Average	26	34	3	56	43	56	5	15	52	68
1944 Jan-Jun	30	37	3	33	26	96	6	9	53	60
Jul-Dec	37	45	7	33	40	125	4 b/	6	50	62
Average	33	42	5	33	35	111	5 b/	7	51	60
1945 Jan	47	46	6	29	48	124	4 b/	5	54	80
Feb	43	42	8	29	45	105	3 b/	8	57	75
Mar	43	48	10	26	48	94	5 b/	40	51	74 b/
Apr	43		8	27	46	85		84	43	84
May	43		8	25	62	94		97	40	
Jun	44		12	20		110				
Jan-Jun	44		9	26		102				
Jul	47 b/									
Aug										
Sep										
Oct										
Nov										
Dec										
DIAGNOSED MALARIA										
1942 Average	0.6	33	0	99	0	11	12	52	165	127
1943 Average	0.2	96	0	37	3	54	208	245	181	123
1944 Jan-Jun	0.1	43	-	16	10	61	67	75	113	66
Jul-Dec	0.2	34	-	12	8	63	13 b/	41	216	52
Average	0.2	38	-	14	9	62	43 b/	53	174	59
1945 Jan	0.1	14	0	7	5	19	8 b/	27	74	11
Feb	0.2	14	-	7	5	16	6 b/	43	49	9
Mar	0.1	19	-	7	8	21	5 b/	62	28	10 b/
Apr	0.2		-	9	11	28		75	29	11
May	0.1		0	11	11	31		72	23	
Jun	0.1		0	12		26				
Jan-Jun	0.1		0	9		23				
Jul	0.1 b/									
Aug										
Sep										
Oct										
Nov										
Dec										

a/ Excluding Iceland.
b/ Based on incomplete reports.
Dash is used to denote no admissions, zero to denote a rate of less than 0.5.

STATISTICAL TABLES (Continued)

ADMISSIONS TO HOSPITAL AND QUARTERS
Rates Per Thousand Men Per Year

Month and Year	United States	Overseas Commands								
		Total	Alaska	Caribbean	ETO a/	MTO	POA	SWPA	Asiatic	ME and PGC
COMMON RESPIRATORY AND INFLUENZA										
1942 Average	243	159	244	113	287	151	89	146	150	197
1943 Average	247	181	222	99	409	142	86	108	159	201
1944 Jan-Jun	198	174	245	84	225	185	97	90	177	254
Jul-Dec	85	100	105	77	92	138	70 b/	78	176	182
Average	147	132	188	81	142	162	85 b/	83	176	219
1945 Jan	167	146	106	67	166	190	70 b/	95	135	180
Feb	192	144	135	71	157	182	60 b/	128	135	149
Mar	167	124	115	65	125	152	65 b/	125	130	164 b/
Apr	122		143	70	93	106		131	129	127
May	124		417	75	87	79		139	136	
Jun	101		182	193		70				
Jan-Jun	145									
Jul	78 b/									
Aug										
Sep										
Oct										
Nov										
Dec										
DIARRHEA AND DYSENTERY										
1942 Average	8	28	5	19	17	33	34	57	120	185
1943 Average	12	66	8	16	12	132	43	70	146	170
1944 Jan-Jun	9	35	3	13	11	41	28	58	182	101
Jul-Dec	10	40	3	12	14	67	28 b/	54	180	129
Average	9	38	3	13	13	54	28 b/	55	181	115
1945 Jan	8	30	1	11	17	20	17 b/	76	69	56
Feb	8	36	2	14	20	21	27 b/	99	68	31
Mar	6	35	2	21	13	19	16 b/	119	83	45 b/
Apr	6		3	14	15	18		90	116	81
May	6		2	14	16	22		88	118	
Jun	7		0	16		31				
Jan-Jun	7		2	15		22				
Jul	7 b/									
Aug										
Sep										
Oct										
Nov										
Dec										

a/ Excluding Iceland.
b/ Based on Incomplete Reports.

STATISTICAL TABLES (Continued)

ADMISSIONS TO HOSPITAL AND QUARTERS
Rates Per Thousand Men Per Year

Month and Year	United States	Overseas Commands								
		Total	Alaska	Caribbean	ETO a/	MTO	POA	SWPA	Asiatic	ME and PGC
FEVER OF UNDETERMINED ORIGIN										
1943 Average	c/	52	0	64	1	75	19	166	71	21
1944 Jan-Jun	c/	35	1	37	1	57	26	102	69	16
Jul-Dec	c/	40	0	31	3	85	13b/	80	174	37
Average	c/	38	1	34	2	71	20b/	88	131	27
1945 Jan	c/	24	0	20	4	39	5b/	70	87	12
Feb	c/	26	-	10	4	43	9b/	95	60	24
Mar	c/	30	0	10	6	41	4b/	117	56	31b/
Apr	c/		-	9	8	43		104	59	33
May	c/		0	10	9	38		113	70	
Jun	c/		0	10		50				
Jan-Jun	c/		0	12		42				
Jul										
Aug										
Sep										
Oct										
Nov										
Dec										
NEUROLOGICAL AND PSYCHIATRIC DISORDERS										
1944 Jan-Jun	29	29	11	21	24	37	26	48	23	27
Jul	32	59	10	16	84	52	27b/	58	16	31
Aug	36	50	12	18	76	28	25b/	48	17	21
Sep	46	41	13	25	40	50	32b/	53	16	19
Oct	48	56	13	23	65	82	32b/	39	21	21
Nov	47	60	13	27	85	47	28b/	41	23	16
Dec	47	56	12	22	72	39	29b/	53	20	26
Jul-Dec	45	53	12	22	69	50	29b/	49	19	22
Average	36	43	12	21	52	43	27b/	48	20	25
1945 Jan	50	43	14	25	51	32	35b/	43	19	20
Feb	49	39	9	27	36	31	25b/	70	20	15
Mar	50	41	13	29	39	31	32b/	74	22	20b/
Apr	45		13	26	31	41		60	24	11
May	49		9	20	15	13		67	22	
June	43		14	20		13				
Jan-Jun	48		12	24		27				
Jul										
Aug										
Sep										
Oct										
Nov										
Dec										

a/ Excluding Iceland. b/ Based on incomplete reports. c/ Not available.
Dash is used to denote no admissions, zero to denote a rate of less than 0.5.